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Footing the Bill: Evaluating Local Government Funding Mechanisms for Sidewalk Infrastructure in Austin, Texas

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Report

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Dedication

To Samantha. I hope my work in transportation planning will, in some small way, make the world a better and safer place for you.

> Yes we'll walk with a walk that is measured and slow,
> And we'll go where the chalk-white arrows go,
> For the children, they mark, and the children, they know
> The place where the sidewalk ends.
>
> –Shel Silverstein, *Where the Sidewalk Ends*, 1974

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Abstract

Footing the Bill: Evaluating Local Government Funding Mechanisms for Sidewalk Infrastructure in Austin, Texas

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The City of Austin is missing almost half of its sidewalk network and 80% of existing sidewalks are in poor condition. Expanding the city's sidewalk network has repeatedly been recognized as an important component of Austin's larger mobility goals, but how the city will fund this effort is unclear. The city's Sidewalk Master Plan estimates that building out and repairing the entire network will take almost 200 years at current funding levels. Austin's sidewalk investments are primarily being funded by bond money, but is depending solely on bond funding for sidewalk infrastructure advisable? Bonds are a form of borrowing not a revenue generating mechanism. Having a revenue generating mechanism dedicated to active transportation investments can help achieve multimodal transportation goals sooner. However, local governments are often constrained in their ability to implement such mechanisms due to state authorization laws. Given that sidewalks are primarily a local responsibility, the inability to generate revenue at the local level for transportation projects can severely hamper walkability goals.

This report highlights examples of local governments that are using revenue generating mechanisms to fund pedestrian infrastructure and evaluates the potential implementation of such mechanisms in Austin, TX. Using a qualitative case study design, this study investigates the different approaches used in the following locations: Ithaca, NY; Fort Wayne, IN; Seattle, WA; and San Antonio, TX. Funding mechanisms used in these case study cities include special assessment districts, local income taxes, property tax assessments, and sales taxes. The report finds that each city has had varying degrees of success with their funding mechanism, with three of the four case study cities generating more sidewalk funding per capita than bond funding alone in Austin, TX. Of the different mechanisms evaluated, dedicated property tax assessments and special assessment districts are the best options for addressing Austin's sidewalk needs. However, state preemption laws in Texas make implementing these mechanisms difficult. Examples of best practices highlighted in this report should be used by local officials to lobby for more autonomy when it comes to funding local transportation needs.

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INTRODUCTION

The City of Austin is missing approximately 2,200 miles of sidewalk and of the 2,400 miles of sidewalk that do exist, 80% are in poor condition (City of Austin, 2016a). Sadly, this is not a uniquely Austin phenomena. Many cities in the U.S. have poor pedestrian networks because of the country's development history and how transportation is funded in the U.S. While cities that developed prior to WWII are typically denser and more walkable, the rise in automobile use and shifting city planning priorities in the mid to late twentieth century resulted in less walkable development. Because of this shift, cities that experienced most of their development during this time period (typically cities in the southern and western regions of the U.S.) are missing large portions of the sidewalk network. Compounding this problem is that sidewalks have historically been viewed as a local infrastructure need to be funded by local governments. While vehicular and transit infrastructure can partially depend on dedicated federal and state government funding streams, sidewalks have no such dedicated funding stream. Instead, sidewalks must contend with the needs of other municipal programs and services all competing for the same pot of money. And because local governments are limited in their ability to generate revenue based on their state's authorization laws, local government budgets are already tight to begin with. Fortunately, cities today recognize the importance of walkability (which provides many benefits to city residents, such as improved public health outcomes and increased property values) and are taking walkability into account when allocating precious local resources.

While there are many factors that affect walkability, arguably the most important is a well-connected, safe pedestrian infrastructure network. A larger sidewalk network increases the number of destinations accessible to a pedestrian and a well-maintained sidewalk network ensures that pedestrians can safely navigate to those destinations. The absence of quality pedestrian infrastructure can affect perceptions of personal safety, which in turn influence one's decision to walk. The 2012 National Survey of Bicyclist and Pedestrian Attitudes and Behavior conducted by the National Highway Traffic Safety

Administration (NHTSA) found that the two biggest threats to personal safety as perceived by pedestrians were "Motorists" (67%) and "Uneven walkways/roadway surfaces" (40%) (Schroeder & Wilbur, 2013).

These threats are direct results of poor pedestrian infrastructure. Absent, disconnected, and poorly maintained sidewalks create increased potential for pedestrian-vehicle conflicts, since they force pedestrians to walk in the road amongst vehicular traffic (Corazza, Di Mascio, & Moretti, 2016). Cracked and broken sidewalks can cause dangerous slips, trips, or falls and make navigating the sidewalk with a mobility device (such as a wheelchair, walker, etc.) impossible. Unfortunately, pedestrian deaths are on the rise all over the U.S., including in Austin, TX where pedestrian deaths reached record highs in 2018 (Bradshaw, 2019a). This means that expanding and improving the city's pedestrian infrastructure network is even more critical.

The lack of safe sidewalks has become a critical concern for the City of Austin. Continued population growth that shows no sign of slowing down has put a huge strain on the current transportation network. As a result, the city's most recent Strategic Mobility Plan (ASMP) emphasized the need for improved traffic safety and congestion management. The city intends to meet both goals by promoting a transportation mode share that decreases single-occupant vehicles on our roads and increases public transit and active transportation users. Without an accessible sidewalk network, the city will be unable to meet its walking mode share objective. Because of this, both the Austin Strategic Mobility Plan (ASMP) and the City's 2016 Sidewalk Master Plan/ADA Transition plan support the funding of all "very high" and "high" priority sidewalk segments for construction and maintenance to help meet the city's pedestrian needs.

While the City of Austin has made building out its sidewalk network a priority in many of its planning documents, where it will get the funding to do so is less clear. According to the 2016 Sidewalk Master Plan/ADA Transition Plan Update, the City needs $1.64 billion to completely build out and properly maintain the entire city sidewalk network, which will take 192 years at current funding rates. Several potential sources of new funding were suggested in the Sidewalk Plan, however, those suited for sidewalk

repair and maintenance only provided moderate funding potential. For new sidewalk construction, the only sources of potential funding that were considered "significant" were bonds and transportation user fees. Because funding $1.64 billion infrastructure needs is a daunting task, the city has focused its efforts on building and repairing all "very high" and "high" priority sidewalk segments by allocating $40 million dollars annually between Fiscal Years 2018 – 2027 (City of Austin, 2016a). Unfortunately, budget projections for FY 19-26 indicate that the City will not meet its yearly goal. To cover this funding gap, the city has largely depended on bond measures though even those have not been enough.

However, is depending solely on bond funding for sidewalk infrastructure advisable? Are there potential sources of funding that would help Austin achieve a fully functional sidewalk network in less time? Bonds are a debt financing tool not a revenue generating mechanism. While bonds are a useful tool for large, capital improvement projects, they are not a stable source of funding that are appropriate for all long-term transportation goals. For example, sidewalk maintenance/ADA compliance needs regular and permanent funding to prevent delays that could exacerbate existing maintenance and accessibility issues. Relying on voter-approved bonds to fund this need, especially when multiple transportation needs are competing for bond funding allocation, is not likely to be enough. Examples exist in other modes of transportation as well, especially when it comes to funding continued operations and maintenance of these modal networks. Mechanisms that continue to generate revenue over time may be more ideal for long-term strategic transportation goals, since they are a more stable and reliable source of funding.

However, what these mechanisms could be varies considerably since local governments are constrained by state laws in their ability to implement new revenue generating mechanisms. Further compounding the legal constraints faced at the local level is the limited amount of research on local government funding mechanisms for pedestrian infrastructure. While best practice examples of how to implement new types of funding mechanisms for sidewalk infrastructure investments (or even dedicate funds to sidewalks from existing revenue streams) exist, the information is scattered. Understanding how such mechanisms came to be implemented, what political and fiscal challenges came up during

implementation, and how the mechanism has performed since implementation are critical pieces of information for local governments seeking to adopt similar mechanisms.

This report evaluates successful sidewalk funding schemes from other cities for potential implementation in Austin. The report is divided into two parts. The first part of this report provides the context for the case study research in the second part. Chapter 2 explains how transportation is funded in the U.S., highlighting how different modes of travel are prioritized differently depending on the level of government in charge of that funding. This chapter also outlines ongoing trends in federal transportation funding that will have an impact on future local level active transportation funding. Chapter 3 provides an in-depth look at Austin's sidewalk needs, current funding sources, and projected funding for the next 10 years. Chapter 4 provides a primer on all funding mechanisms available to local governments in the U.S., discussing when/where they can be used and their potential to serve as a dedicated funding source for sidewalk infrastructure. This chapter also provides a comparison between borrowing mechanisms and revenue generating mechanisms.

The second part of this report uses a qualitative case study design to examine local level, revenue generating mechanisms in other cities that are specifically dedicated to sidewalk funding. Chapter 5 discusses the rationale and methodology used for the case study design, including the criteria used to pick the case study cities. Chapter 6 discusses the findings from the case study cities: Seattle, WA, Ithaca, NY, Fort Wayne, IN, and San Antonio, TX. Each case examines the local needs prior to the mechanism's implementation, how the mechanism was implemented, any political challenges faced, and what the results have been thus far. Chapter 7 draws conclusions from the case study cities and provides a discussion of what legal constraints Austin may face should it choose to pursue one or more of the funding mechanisms used in the case studies. The report ends with a discussion of the potential of local government funding mechanisms to fund large transportation projects in an era of decreased federal funding.

THE CURRENT STATE OF TRANSPORTATION FUNDING IN THE U.S.

History of Transportation Funding in the U.S.

Federal, state, and local governments are the primary players in funding our nation's transportation network (including roads, transit, aviation, active transportation, etc.), with public agencies pay for 94% of all transportation infrastructure in the U.S. (Elmer & Leigland, 2014). This is common internationally, as most countries infrastructure needs are publicly funded. However, the way the U.S. government funds transportation infrastructure is very different compared to other developed nations due to the country's federalist government system. Before World War II, transportation infrastructure was a local matter funded through property taxes but the country shifted to a federally funded, user-fee model through the creation of the Highway Trust Fund (Elmer & Leigland, 2014). As a result, the majority of transportation infrastructure in the U.S. is funded through the Federal Highway Trust Fund (HTF), which levies an excise tax of 18.4 cents per gallon for gasoline and ethanol-blended fuels and 24.4 cents per gallon for diesel.

The reliance on the HTF to fund our nation's transportation infrastructure has resulted in inequities across different travel modes. Created to fund the U.S. Interstate Highway System in 1956, the HTF has two accounts: The Highway Account that funds road and other surface transportation and The Mass Transit Account that supports public transportation. Funds are not allocated according to strategic transportation goals but rather, are "distributed to states and transit authorities by formula and are designated for use on specific modes." (Eno Center for Transportation, 2014). There is no specific account for active transportation, though a small share of Highway Account funds can be used to build and maintain infrastructure for non-vehicular modes, including bicycle and pedestrian facilities. Unfortunately, only 20% of total HTF revenue is allocated to all non-highway modes, which includes the funds in the Mass Transit Account. Of this funding, the share of funds that are used for pedestrian infrastructure is even smaller, with

"pedestrian safety measures only garner[ing] less than 1 percent of road-related spending" at the national level (Elmer & Leigland, 2014). This means that at the federal level, transportation spending largely ignores active transportation infrastructure which includes sidewalks.

Federalism and its Role in Transportation Funding

Of course, the HTF is not the only source of transportation funding available in the U.S. The federalist system of the United States means that many levels of government have a role to play in generating revenue and spending said revenue on transportation related projects, including actors at the federal, state, county (parish/borough), and municipal levels. While the federal gas tax is the largest single source of transportation funding in the U.S., state and local governments have the authority to implement other funding mechanisms to meet their budgetary needs. In fact, most public infrastructure spending takes place at the state and local level (Elmer & Leigland, 2014). As of 2017, state and local governments paid for 74% of total road spending (including capital, operations, and maintenance) and 77% of total transit spending (including capital, operations, and maintenance). While state and local governments do get federal grant money, the majority of the money spent on public infrastructure (61.4%) comes from state and local revenue sources (See Figure 1) (Congressional Budget Office, 2018). Since sidewalks are a local infrastructure need, it would make sense that they be funded by local government revenue sources.

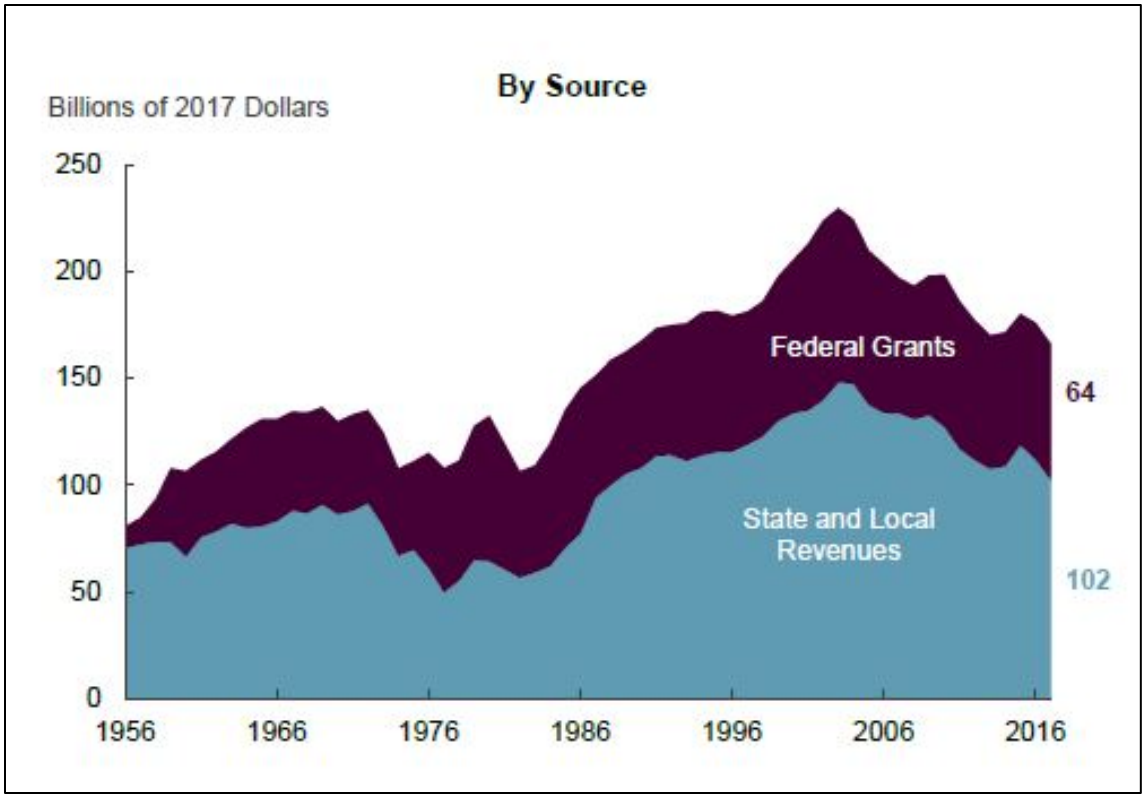

Figure 1: State and Local Capital Spending on Transportation and Water Infrastructure, by Source of Funds, 1956 to 2017 (Congressional Budget Office)

However, transportation needs are growing. This means that local governments are increasingly bearing the brunt of increased demands on infrastructure that constrain local budgets while also being limited in their ability to generate new revenue. Local governments must balance a whole host of transportation needs (along with other infrastructure and government service demands) that divert funding away from pedestrian infrastructure. Local governments, "maintain the most roadway mileage in the country, they operate most of the country's transit systems, and they own and operate most sea ports and airports" (Tomer & Kane, 2018). As cities continue to experience rapid population growth, the demands place on local transportation infrastructure will also increase. While state governments also help fund transportation projects at the local level, state transportation goals can be at odds with local goals. For example, as noted by the National League of Cities, "state departments of transportation tend to favor highway and road

projects over other types of infrastructures investments" whereas cities, due to their dense populations tend to push for more transit and active transportation investments (DuPuis & McFarland, 2016). The limitations placed on what kinds of transportation projects can be funded by state and federal dollars mean that active transportation projects (specifically sidewalk funding) are often not even considered eligible for certain pots of money. Instead, they are left to contend with other needs for an increasingly smaller amount of money.

Legal Constraints on Local Governments

Because local governments need additional funding to meet their infrastructure needs, they are turning to voters to approve new local sources of funding with ballot measures for new bonds or sales/property tax increases (Tomer & Kane, 2018). However, a local government's ability to access new sources of local funding is often restricted by state and federal laws, with some localities being much more constrained than others. Whereas the U.S. Constitutions guarantees that states reserve certain powers, local governments have no such rights (and in fact are not mentioned in the Constitution at all). Instead, many cities are subject to 'Dillon's Rule', an Iowa court decision that was upheld by the U.S. Supreme Court in 1907 and then again in 1923. Dillon's Rule states that "a substate government may engage in an activity only if it is specifically sanctioned by the state government" (National League of Cities, 2016). Several states have adopted "Home Rule" provisions because Dillon's Rule so severely impeded a local government's ability to respond to local needs. Home Rule local governments can govern themselves as they see fit as long as they still obey state and federal constitutions. Texas is partially a home rule state, meaning that cities may adopt Home Rule once their population exceeds 5,000 and they have adopted a city charter (Texas Constitution, Article XI, Section 5). Even so, home rule cities face a lot of constraints that affect their ability to effectively provide for the infrastructure needs of their residents.

As a result of their substate status, local governments in the U.S. are restricted in terms of the type of funding mechanisms they can implement to raise revenue for transportation infrastructure and these restrictions vary wildly depending on the and state.

A 2016 report from the National League of Cities shows that only 29 states authorize local option sales taxes, 26 states authorize local option fuel taxes, 16 states authorize local option motor vehicle registration fees, 32 states authorize public private partnerships, and 27 states have state infrastructure banks (DuPuis & McFarland, 2016). This means that local investment in transportation infrastructure is and will continue to be widely varied and unequal. In Texas, local governments face a number of restrictions: local fuel option taxes, local option motor vehicle registration fees, and local option income taxes are not authorized (the state does not have an income tax either) (DuPuis & McFarland, 2016). While the state does allow for local option sales taxes, it is capped at a rate of 2%. Recent developments at the state legislature have also limited potential property tax revenue for Texas cities. Until recently, local governments and local taxing authorities were limited to an 8% annual property tax growth. The recently passed S.B. 2 constrains that further, stating that taxing authorities must "hold an election if they wish to raise 3.5% more property tax revenue than the previous year" (Roldan & Najmabadi, 2019). Local governments like the City of Austin will now face additional budgetary constraints that limit their ability to invest in needed active transportation infrastructure.

Decline in Federal Transportation Funding

Compounding the legal constraints faced by local governments in generating new revenue is the continued decline in federal transportation funding availability. This decline will force local governments to divert already tight funds away from sidewalk projects to cover the gaps left by dwindling federal dollars. As mentioned previously, federal transportation funding primarily comes from the HTF. Funds generated by the HTF are administered by the U.S. Department of Transportation through its modal agencies (FHWA, FTA, etc.) and distributed according to different funding programs as determined by Congress through federal transportation spending bills. Transportation spending bills are multi-year funding bills for surface transportation programs, with the current bill being the "Fixing America's Surface Transportation Act" (FAST Act). The FAST Act was passed in 2015 and authorizes surface transportation spending of $305 billion for fiscal years (FY)

2016 through 2020 (Office of Policy and Governmental Affairs, 2016). The FAST Act is set to expire in FY 2020, which ends on September 30, 2020 just prior to the 2020 presidential elections in November. The likelihood of a new transportation spending bill in a presidential election year is slim, especially considering mounting partisan tensions between President Trump and Congressional Democratic Leaders. In May 2019, President Trump walked out of a meeting with House Speaker Nancy Pelosi and Senate Minority Leader Chuck Schumer that was intended to focus on infrastructure spending, claiming he "would not negotiate on legislation with Democrats while he was still under investigation by several committees" (Wilkie, 2019). Since the passage of a new transportation spending bill seems unlikely, government agencies in charge of spending federal transportation funds are facing an uncertain future that could delay or indefinitely postpone projects as agencies wait to see what funding will be available after the FAST Act's expiration. Local governments may find themselves postponing local infrastructure projects as a result.

On top of the impending FAST Act expiration, many local transportation organizations and agencies are concerned about the impending rescission of $7.6 billion of federal funds set to occur in July 2020 as part of Section 1438 of the FAST Act (Druga, 2019). Rescissions occur when the federal government rescinds unspent transportation funds, thereby canceling a recipient's (such as a state Department of Transportation, Metropolitan Planning Organization, etc.) authority to spend federal transportation funds that were previously allocated to them. A rescission of transportation funds in 2020 will have serious impacts on state and local governments' ability to fund needed infrastructure, especially for pedestrian and bicycle infrastructure needs. According to The League of American Bicyclists, "the majority of states do not spend at least 2% of federal transportation funds on bicycling and walking projects although Transportation Alternatives funding makes up approximately 2% of federal transportation funds" meaning that unused Transportation Alternatives funds could be rescinded next year. While Congress does not stipulate to states how to rescind funds, as mentioned previously state Departments of Transportation (DOTs) are more likely to favor highway and road projects when allocating funds. This means that funds that could be used for non-motorized

transportation projects are the most vulnerable to possible recession in the upcoming year, which will have a major impact on sidewalk funding.

Even if Congress can pass a transportation spending bill and state governments do allocate their rescission-threatened funds, there is still the issue of the HTF's viability going forward, which will affect how all modes of transportation are funded in the future. The long-term sustainability of the HTF has been a source of major concern in the last few decades, since more fuel-efficient vehicles have led to decreased revenues while transportation needs have grown. Plus, because fuel taxes are charged per unit of consumption rather than as a percentage of the total cost, they are unable to keep up with inflation. The fuel taxes that support the HTF have not been raised since 1993 and without any changes in the current tax levels, the fund is expected to have a deficit of $180 billion over the next decade (See Figure 2) (DuPuis & McFarland, 2016). Even though many states and local governments have had success in increasing their own gas tax rates, the federal government has not had the same success for the last 26 years. Any potential for future increases in the near future are unlikely due to fear of political backlash. The lack of political will to raise the tax has resulted in the HTF needing an infusion of cash from the U.S. Treasury's General Fund on five different occasions since 2008. While alternative funding models have been proposed (such as a VMT fee), it is unlikely that any of these alternatives will replace the gas tax/HTF any time soon.

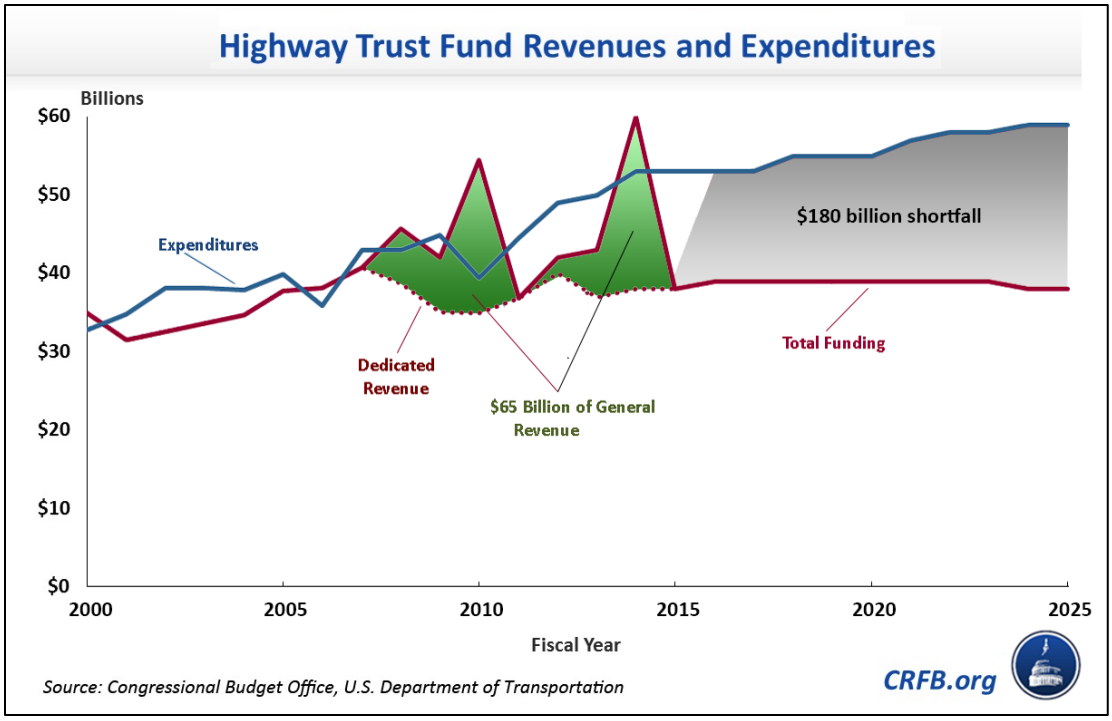

Figure 2: Highway Trust Fund Revenues and Expenditures (The Committee for a Responsible Federal Budget)

However, the continued decline in revenue generated by the gas tax may end up shifting how transportation funding happens across all levels of government. Research from the Eno Center for Transportation commented that "[t]he unpredictability of available revenues within the HTF may shift stakeholders' support from the trust fund model to a model that may be able to provide them increased predictability of annual funding streams" (Eno Center for Transportation, 2014). Considering that local governments have the biggest transportation needs and directly serve most of the country's population, some are arguing that the U.S. should shift our current system to one led by local governments, or "bottom-up" (Tomer & Kane, 2018). As it is, this shift is already happening as local governments respond to declining federal and state dollars. A transportation funding system with local governments at the helm could be a game changer for sidewalk funding. Until then, local governments will have to evaluate all potential funding options available to them and continue to make their budgets stretch.

THE CURRENT STATE OF PEDESTRIAN INFRASTRUCTURE FUNDING IN AUSTIN, TX

Austin's Sidewalk History

The history of sidewalks in most American cities is closely tied to the adoption of motorized vehicles in the twentieth century. While images of American cities prior to the widespread adoption of the automobile show pedestrians sharing roadway space with other vehicles (bicycles, trams, cars, etc.), pedestrians soon found themselves relegated to the sidewalk as the number of cars on the road grew. As cars grew in both speed and volume, restricting road space to motorized vehicles became necessary to maintain traffic flow and reduce conflicts. Roads became purely utilitarian public spaces for the fast, efficient movement of people and goods while sidewalks stayed closely associated with the abutting buildings and used for a variety of purposes beyond transportation (sidewalk cafes, kiosks, advertisements etc.). As a result, roads were considered a public good meriting public funding while sidewalks were not. Because of their quasi-private status, cities often left sidewalk matters (including their construction and maintenance) to private property owners and developers. Because cities were unlikely to have ordinances requiring that private property owners and developers construct and/or maintain sidewalks (or if they had such an ordinance, were unlikely to enforce them), large areas of the city soon found themselves with subpar or nonexistent sidewalk networks (Loukaitou-Sideris & Ehrenfeucht, 2009).

The City of Austin, TX is no different. Before the late 1990s, property owners were responsible for maintaining the sidewalks abutting their property, a rule that was rarely enforced. On top of that, there was no ordinance requiring sidewalk installation for new developments. As a result, many developers and property owners opted to not add sidewalks, a pattern that also occurred in subdivisions outside of city limits. It wasn't until the passage of the Americans with Disabilities Act (ADA) in 1990 that the City of Austin began to reconsider their role in sidewalk construction and maintenance. Since the passage of the ADA, many cities have faced expensive lawsuit settlements due to improperly

maintained sidewalks (it is important to note that the absence of sidewalks does not violate the ADA, but existing sidewalks that do not meet the ADA architectural standards are a violation). While most of the high-profile lawsuits were settled after the City of Austin took back responsibility of sidewalk maintenance, local disability advocacy groups were instrumental in getting the City to rethink its responsibility for sidewalk maintenance shortly following the ADA's passage. Concerned residents spoke at City Council meetings and formed the City's Sidewalk Task Force, which resulted in new sidewalk policies for the City of Austin (Hiott, 1996). In 1995, the city adopted its ADA Transition Plan (a federal requirement resulting from the ADA) and updated its code so that landowners were no longer responsible for maintenance.

However, even after the code update the city did not build new sidewalks or maintain the existing ones for many years (Whittaker, 2014). Additionally, as the city annexed land surrounding city limits, it took on more and more development that came without sidewalks. In fact, the majority of absent sidewalks in Austin are in areas introduced to the city through annexation over the last 70 years (City of Austin, 2016a). It has only been in the last 15-20 years that major strides in Austin's sidewalk development have occurred. It wasn't until 2000 that the City adopted its first Pedestrian Master Plan to "provide a structured approach for improving pedestrian facilities" and address the sidewalk needs identified in the city's 1995 ADA Transition Plan (City of Austin, 2009). And it wasn't until 2006 (11 years after the city took on sidewalk maintenance responsibility) that the City initiated its sidewalk maintenance program. Even local leaders admit that sidewalks didn't truly become a priority for the city until the latest Sidewalk Master Plan update in 2016, with current Mayor Steve Adler commenting, "[t]his is a huge problem born out of decades of not requiring sidewalks. We're finally doing something about it. We've done more in the last four years than any other four-year period in the city's history" (Neely, 2019).

The Existing Need

Because Austin's sidewalk efforts have only come about recently, the city's sidewalk network is in a rather poor state. An often-quoted statistic is that the city is missing over 50% of its sidewalk network or 2580 miles of sidewalk, which comes from the city's 2009 Sidewalk Master Plan. Fortunately, the city's sidewalk is not quite that bad. According to the more accurate GIS data from the city's Public Works department, the number is closer to 2,200 miles of absent sidewalks within the Austin Full Purpose city limits as of May 2019 (See Figure 3). This is also a big improvement over the roughly 3,500 miles of absent sidewalk in 2009 (City of Austin, 2009). While some of this jump could be also be attributed to improved GIS data, the city has added a substantial amount of sidewalk mileage in the last decade. A major portion of this new development is attributable to private developers complying with local requirements (Chapter 25-6 of the city code requires developers to install sidewalks when constructing a new project or increasing a building's floor area by 50% or more).

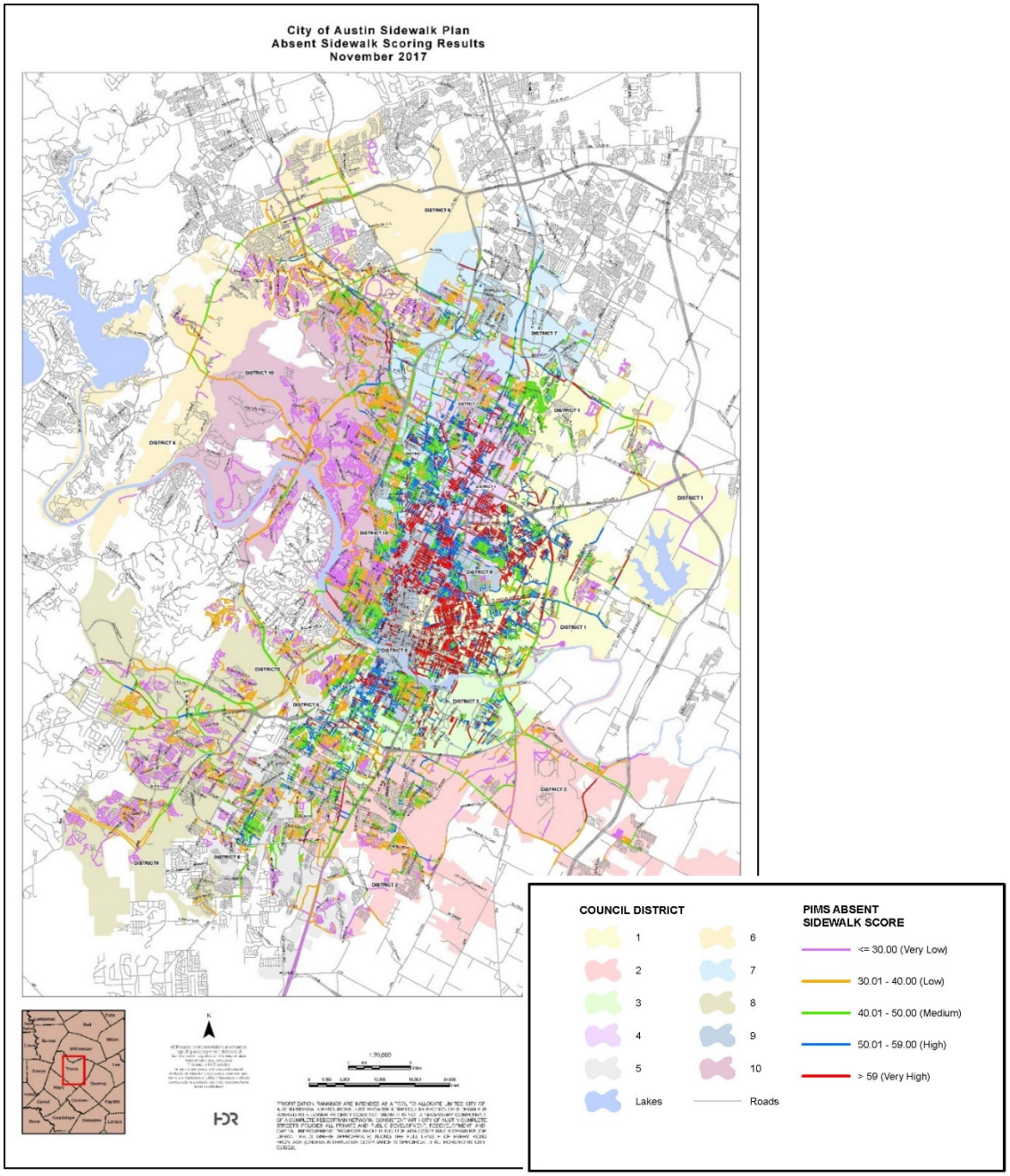

Figure 3: City of Austin Absent Sidewalk Network color-coded by priority (legend size increased by author for improved legibility). All line segments shown in purple, yellow, green, blue, and red are absent sidewalks, with red showing the highest priority sidewalks for future construction. (City of Austin)

Of course, the City of Austin is also not the only entity responsible for building sidewalks within city limits. As mentioned, private developers have constructed the bulk of new sidewalks in the last 10 years. Additionally, other agencies such as Cap Metro (the local transit authority) and the Texas Department of Transportation (TxDOT) also build sidewalks that are not funded by city dollars. However, even if the city is hoping to reduce the financial burden of new sidewalk construction by depending on other entities to fund part of its absent sidewalk network, it has not been tracking what these entities have been doing thus far. The Office of the City Auditor released its audit report of the City's sidewalk program earlier this year that found that the City does not have a process in place to regularly collect information about sidewalks built or planned to be built by other entities. Currently there is no telling how significant sidewalk construction by non-city entities is compared to the overall need. The audit points out that by not collecting this information, the Sidewalks Division cannot provide accurate reporting on whether they are meeting the goals laid out in the city's sidewalk policy documents. The Public Works Department has agreed to the Office of the City Auditor's recommendation to put a process in place to collect such information, with a proposed implementation date of May 2022 (Office of the City Auditor, 2019).

Even if the city can rely on other agencies and private developers to help complete its sidewalk network, there are several equity and financial considerations the city must consider. First, there are geographic equity considerations since private development would likely ignore large parts of the city. While sidewalk installation is required when increasing a building's floor area by 50% of more, most of Central Austin is already built out. Barring the occasional redevelopment project (which has primarily been concentrated downtown) as Mayor Adler has pointed out "the responsibility of retrofitting already built-out sections of the city with sidewalks would fall on the city, as little development occurs in those areas" (Neely, 2019). Without the city taking on financial responsibility for sidewalk construction, many areas of town will be left without sidewalks. Additionally, there is also the issue of funding for sidewalk maintenance and repair. Construction is only one part of a functional sidewalk network. A sidewalk is essentially useless if it is not

maintained and while TxDOT and/or CapMetro might help with ongoing sidewalk maintenance, private developers will not. Sidewalk construction resulting from private development means the city faces the acquisition of hundreds of new miles of right-of-way (ROW) requiring city money to for maintenance without any additional funding mechanism to cover the costs (Whittaker, 2014). It is no surprise, then, that approximately 80% of our existing sidewalk network is functionally deficient (just under 2,000 miles of sidewalk), which could potentially lead to an expensive ADA lawsuit like the City of Los Angeles' $1.3 billion settlement in 2015 (Reyes, 2015). Even if the city only concerns itself with sidewalk maintenance, it still needs to have a plan in place for its ongoing funding needs.

Current Sidewalk Policy Documents

Funding decades worth of neglected or forgotten infrastructure is a monumental task and one that Austin is trying to grapple with going forward. While the city adopted its first Pedestrian Master Plan in 2000, sidewalk policy efforts really ramped up in 2016 with the adoption of the updated Sidewalk Master Plan / ADA Transition Plan (SMP). The 2016 SMP established a 10-year goal of addressing all very high and high priority absent sidewalks and bringing functionally deficient sidewalks into compliance with the ADA. These goals were further reiterated in the Austin Strategic Mobility Plan (ASMP), which is Austin's city-wide transportation plan that was adopted by City Council in April of 2019. The ASMP does not replace the SMP but rather integrates all of the individual modal plans (including the Bicycle Master Plan, Urban Trails plan, etc.) into one larger, comprehensive transportation planning document. Austin's previous overarching transportation plan was the Austin Metropolitan Area Transportation Plan, which was adopted in 1995 and therefore did not reflect the sidewalk priorities identified in the SMP.

The Supply chapter of the ASMP lays out specific targets for the sidewalk network including:

- Achieve and maintain 95% functionality for very high- and high-priority sidewalks by 2026
- Achieve and maintain 55% functionality for the sidewalk system by 2026
- Complete 100% of missing very high- and high-priority sidewalks within 1/4 mile of all identified schools, public transit stops and stations, and parks by 2026

Additionally, the ASMP makes a pledge to increase funding to implement high and very-high priority sidewalks alongside other active transportation improvements, with a target of completing all systems by 2039 or sooner. Both the 2016 Sidewalk Master Plan and the 2019 ASMP pledge public funding to achieve these goals. The Sidewalk Master Plan specifically sets out total funding commitments of at least $40 million per year, beginning in FY2019. However, where the funding for all these sidewalk commitments will come from is still not 100% clear. Additionally, because many sidewalk projects are enfolded into larger roadway projects it is difficult to estimate how much is actually being spent on sidewalks specifically.

Current Sidewalk Funding Sources

According to the city's website, the City of Austin's Sidewalk Program "relies on a variety of funding sources to implement sidewalk improvements, including but not limited to, bond funding, Quarter-Cent funds, fee-in-lieu, grants, etc." (City of Austin, 2019). However, the SMP and the city's budget documents show that bond money funds the overwhelmingly majority of its sidewalk funding, followed by revenues from the Transportation User Fee. Fortunately, bond measures for sidewalk infrastructure have been successful thus far. In 2016, voters approved $37.5 million for sidewalk construction as part of the 2016 Local Mobility Bond and in the 2018 bond election, voters approved an additional $20 million for sidewalk rehabilitation. Also, both bond measures had additional funds for other transportation programs that would include sidewalk improvements as part of a larger goal, such as Safe Routes to School, Vision Zero, and the 2016 Corridors Program.

Overreliance on bond funding comes with other disadvantages that could hamper Austin's sidewalk goals. For one, these bonds are only going to make a small dent in the city's sidewalk needs and will not create a steady revenue stream for future sidewalk maintenance. The 2016 bond amount for sidewalk construction is only enough to build 40 to 60 miles of sidewalk. The 2018 amount will only be enough for an additional 21 – 32 miles of sidewalk. Even optimistically assuming the higher end of these ranges (60 miles and 32 miles, respectively), these two bond measures will only provide enough upfront funding to build out just over 3.5% of the city's missing sidewalk network. Further, bond finance is subject to voter approval, so it is possible that the voters will reject the proposition and the city will have to consider other approaches. Austin recently passed two bond measures that have dedicated funding amounts for sidewalk infrastructure (in 2016 and 2018) and it seems likely that the City will put sidewalk funding in a bond measure once again in 2020. However, the city has had past bond measures focused on other types of transportation investments fail in the recent past and it's not unreasonable to worry about failure in 2020. Another risk with bonding for sidewalks is the city's credit rating, though this is not a major concern for Austin. Austin currently has solid bond ratings. All three of the major credit rating agencies, Moody's, Standard and Poor's, and Fitch Ratings, have given Austin a rating of 'AAA' (the highest rating). While the current debt load is $9.4 billion, Austin has less debt per capita than Dallas, Houston and El Paso (Jankowski, 2019). While there is always a small risk that Austin's credit rating could drop (leaving the city unable to obtain bond funding for its sidewalk needs down the line), for now this seems unlikely. Still, the city should consider whether the overreliance on bond funding to fund sidewalk improvements is reflective of its inability to create a more stable funding structure that would be more supportive of its walkability goals. As it was pointed out by a city employee in a 2014 Austin Chronicle article, "[in] places that are more 'sidewalk-centric,' people are assessed a certain amount of taxes that relate to sidewalks [but not in Austin]" (Whittaker, 2014).

Of course, the city has other revenue sources besides bonds to fund its sidewalk program, though they are usually in smaller amounts. In addition to bonds, the city relies

on grants and the 'sidewalk fee in lieu' for sidewalk construction (City of Austin, 2016b). Should a developer choose to pay the 'sidewalk fee in lieu of constructing a new sidewalk, that money is set aside in a fund for future sidewalk construction in that specific neighborhood. The developer may request any unused fees back after 10 years. Currently, the city has approximately $2,500,000 available from its sidewalk fee in lieu program. In addition, Austin's Sidewalk Program (housed in the Public Works Department) gets a sizeable amount of its operating budget from the city's Transportation User Fee (TUF). The Transportation User Fee provides approximately 50% of the Public Works department's revenue (See Figure 4). The TUF is a fee assessed to residents and businesses based on the traffic levels generated by each dwelling unit or business and the revenue it generates is split between the city's Public Works and Transportation departments. However, the revenue is not specifically dedicated to sidewalk infrastructure, funding everything from street maintenance and repair to traffic management activities (City of Austin, 2018b).

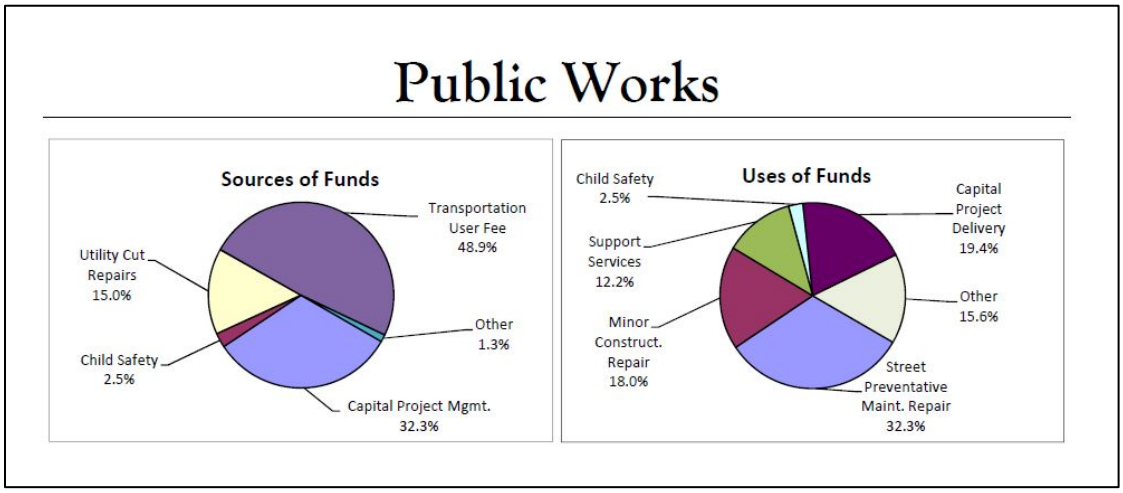

Figure 4: City of Austin Public Works Department Revenue Sources (City of Austin)

Budget Projections and Shortfall

To meet the city's 10-year targets for new and existing sidewalks ("Address all very high and high priority sidewalks … Achieve 95% functionality for very high and high

priority sidewalks and Achieve 55% functionality for citywide sidewalk network"), the city estimated that it would need to spend approximately $25 million on new sidewalk construction through FY 2026 and $15 million per year beginning in 2019 (City of Austin, 2016a). On average this means that the city should expect to spend an average of $40 million per year on sidewalks as of FY 2019. While planning documents are not legally binding, the city should still strive to meet its spending targets if it is serious about achieving its walkability and accessibility goals.

Unfortunately, initial budget projections indicate that the City will not meet its $40 million per year funding target, even with recent bond funding. In summer of 2018, the city's Pedestrian Advisory Council (PAC) expressed concern over a potential gap of $120,000,000 through FY 2027 and passed a resolution urging City Council to dedicate funds to cover the gap. The resolution also supported a staff recommendation of dedicating $1 million per year from existing Transportation User Fee funds to sidewalks (City of Austin Pedestrian Advisory Council, 2018). Based on additional budget information and correspondence with city staff, this research report has found that the situation is not quite as dire as the PAC's projection would indicate, though a shortfall of approximately $73 million still exists (See Table 1).

City of Austin Sidewalk Funding (FY 18 - 27)										
Revenue Sources	**17-18**	**18-19**	**19-20**	**20-21**	**21-22**	**22-23**	**23-24**	**24-25**	**25-26**	**26-27**
2016 Mobility Bond (Local Mobility Program - 8 year life cycle)										
$37.5 million Sidewalks	Included in Capital Budget Amount	Included in Capital Budget Amount	$ 4,687,500.00	$ 4,687,500.00	$ 4,687,500.00	$ 4,687,500.00	$ 4,687,500.00			
$27.5 million Safe Routes to School			$ 3,437,500.00	$ 3,437,500.00	$ 3,437,500.00	$ 3,437,500.00	$ 3,437,500.00			
$15 million Intersection Safety/ Vision Zero			$ 1,875,000.00	$ 1,875,000.00	$ 1,875,000.00	$ 1,875,000.00	$ 1,875,000.00			
2016 Mobility Bond (Corridors Program estimate - Construction occuring between FY 2021 - 2024)										
$37.5 million Sidewalks				$ 9,707,129.00	$ 9,707,129.00	$ 9,707,129.00	$ 9,707,129.00			
2018 Prop G (6 year life cycle)										
$20 million Sidewalks		$ 3,333,333.33	$ 3,333,333.33	$ 3,333,333.33	$ 3,333,333.33	$ 3,333,333.33	$ 3,333,333.33			
$15 million Vision Zero		$ 2,500,000.00	$ 2,500,000.00	$ 2,500,000.00	$ 2,500,000.00	$ 2,500,000.00	$ 2,500,000.00			
Operating Budget										
Child Safety (Safe Routes to School)	$ 133,866.00	$ 289,098.00	$ 297,770.94	$ 306,704.07	$ 315,905.19	$ 325,382.35	$ 335,143.82	$ 345,198.13	$ 355,554.07	$ 366,220.70
Minor Construction & Repair	$ 600,000.00	$ 559,104.12	$ 575,877.24	$ 593,153.56	$ 610,948.16	$ 629,276.61	$ 648,154.91	$ 667,599.55	$ 687,627.54	$ 708,256.37
Sidewalk Infrastructure Program	$ 853,679.00	$ 894,320.00	$ 921,149.60	$ 948,784.09	$ 977,247.61	$ 1,006,565.04	$ 1,036,761.99	$ 1,067,864.85	$ 1,099,900.80	$ 1,132,897.82
Street Preventive Maintenance	$ 1,500,000.00	$ 1,938,549.13	$ 1,996,705.60	$ 2,056,606.77	$ 2,118,304.97	$ 2,181,854.12	$ 2,247,309.75	$ 2,314,729.04	$ 2,384,170.91	$ 2,455,696.04
Contracted Street Preventative Maintenance (contractor)	$ 1,000,000.00	$ 1,000,000.00	$ 1,030,000.00	$ 1,060,900.00	$ 1,092,727.00	$ 1,125,508.81	$ 1,159,274.07	$ 1,194,052.30	$ 1,229,873.87	$ 1,266,770.08
Street Repair		$ 3,000,000.00	$ 3,090,000.00	$ 3,182,700.00	$ 3,278,181.00	$ 3,376,526.43	$ 3,477,822.22	$ 3,582,156.89	$ 3,689,621.60	$ 3,800,310.24
Capital Budget										
Sidewalks	$ 35,992,162.00	$ 11,101,620.00	$ 5,426,335.27	$ 5,589,125.32	$ 5,756,799.08	$ 5,929,503.06	$ 6,107,388.15	$ 6,290,609.79	$ 6,479,328.09	$ 6,673,707.93
Sidewalk Fee In-Lieu Program										
Sidewalk Fee In-Lieu (citywide)		$2,500,000	$ 2,575,000.00	$ 2,652,250.00	$ 2,731,817.50	$ 2,813,772.03	$ 2,898,185.19	$ 2,985,130.74	$ 3,074,684.66	$ 3,166,925.20
Total										
	$ 40,079,707.00	$ 27,116,024.58	$ 31,746,171.98	$ 41,930,686.14	$ 42,422,392.86	$ 42,928,850.77	$ 43,450,502.42	$ 18,447,341.29	$ 19,000,761.53	$ 19,570,784.38
Annual Gap ($40,000,000 - Total)										
		-$12,883,975.42	-$8,253,828.02	$1,930,686.14	$2,422,392.86	$2,928,850.77	$3,450,502.42	-$21,552,658.71	-$20,999,238.47	-$20,429,215.62
Total Gap										
					-$73,386,484.04					
*Amounts in green shading assume an average inflation rate of 3%										

Table 1: City of Austin Sidewalk Funding Projection FY18-27

This shortfall will make it that much harder to meet the city's sidewalk targets, hampering its larger walkability and Vision Zero goals. Vision Zero is an international movement that aspires to reduce the number of people who die or are seriously injured in traffic crashes to zero. Austin's City Council adopted a Vision Zero policy in 2015, followed by an Action Plan in 2016 (which was incorporated into the ASMP in 2019) (City of Austin Transportation Department, n.d.). Failing to meet the funding targets established in the SMP is a major public safety concern, considering pedestrian deaths in the city continue to climb. Last year pedestrians made up 42% of all traffic deaths in Austin and some of these deaths are directly connected to a lack of sidewalks, like the death of Scott Gerald Whiting who did not have a sidewalk to use and was hit by a motor vehicle at the 5700 block of Parmer Lane in July 2018 (Bradshaw, 2019a). Without a funding mechanism that is specifically dedicated to sidewalk infrastructure, Austin will not be able to keep up with the city's sidewalk needs and more pedestrians will face fates similar to Scott Whiting's. However, what kind of funding mechanisms would be most valuable for sidewalk construction and maintenance in Austin, TX is unclear. The following chapter provides an overview of all funding sources available to local governments in the U.S. and whether they would be appropriate for dedicated sidewalk funding in Austin, TX.

A PRIMER ON TRANSPORTATION FUNDING MECHANISMS AVAILABLE TO LOCAL GOVERNMENTS

As discussed in Chapter 2, sidewalk funding falls to local governments. Unlike vehicular and transit infrastructure that can depend on federal and state fuel tax revenues, sidewalk funding does not have a dedicate funding stream. This leaves local governments to determine how much money to allocate to sidewalks (if any) and what funding they will use to do so. Local governments can use a mix of borrowing tools (such as bonds) and revenue generating mechanisms (taxes, user fees, value capture mechanisms, etc.) to fund their transportation investments.

The following section provides an overview of all the various funding sources that are available to municipalities across the U.S., many of which could potentially be used for meeting the funding needs of pedestrian infrastructure. Sources are broken down into borrowing versus revenue generating mechanisms. Table 2 provides a summary of borrowing and revenue generating mechanisms used for transportation funding in the U.S. and whether they are available at the local level. This section concludes with a brief discussion of additional sources of funding that local governments can tap into, including private funding and federal grant program.

Revenue Generating Mechanisms		Local	State	Federal
Taxes	Property Tax	X	X	
	Sales & Use Taxes	*	*	
	Excise Tax	X	X	X
	Income/Payroll/Employer Taxes	*		X
	Gas Taxes	*	X	X
Fees	Vehicle Miles Traveled (VMT) Fee		**	
	Tolls	*	*	
	Vehicle Registration Fees	*	X	
	Fines	X	X	
	Curb Access Pricing & Management	X		
Value Capture	Transportation Utility Fees	*		
	Tax Increment Financing (TIF/TIRZ)	*		
	Special Assessment Districts	X		
	Development Impact Fees	X		
	Congestion Pricing	*		
Borrowing Tools		**Local**	**State**	**Federal**
Non-Federal Sources	Bonds	X	X	
	State Infrastructure Banks (SIBs)	*	*	
Federal Sources	Transportation Infrastructure Finance and Innovation Act (TIFIA)	X	X	
	Grant Anticipation Revenue Vehicles (GARVEE Bonds)	X	X	
	Grant Anticipation Notes (GANs)	X	X	

X - available
* - available in some states/local governments but not all
** - pilot programs only, available in some states/local governments but not all

Table 2: Overview of Funding Mechanisms by Level of Government

Revenue Generating Mechanisms

The following sources of transportation funding are revenue generating mechanisms. Revenue generating mechanisms are varied but typically fall into one of three categories: Taxes, User Fees, or Value Capture. Some mechanisms fall into more than one category. Local governments typically use a mix of such mechanisms. The revenue generated by these mechanisms is not necessarily restricted to transportation investments and usually goes into the city's general fund unless otherwise specified. Some are continuous sources of revenue while some are one-time payments. Some revenue generating mechanisms have a wider reach and can generate a vast amount of money in a short amount of time, while others can only raise a limited amount of funds. While all the following mechanisms are available in the U.S., not all are available to every local government depending on their state authorization laws. The following provides a quick overview of how these mechanisms work and how promising they are for sidewalk funding.

TAXES

Property Taxes

Taxes are the number one way that municipalities generate revenue and the main source of tax income for local governments comes from property taxes. In 2011, just under 75% of all tax revenue received by local governments came from property taxes (Barnett & Vidal, 2011) Properties can be taxed by multiple jurisdictions (including cities, countries, school districts, utility district, etc.) and many states impose limits on how local governments can tax property. The amount of the tax owed is determined annual based on the market value of the property as determined by a tax appraisal office. Tax rates vary widely by municipality across the country and municipalities can use different methods to determine a rates and/or value of the property. Most jurisdictions do provide some tax relief from property taxes through mechanisms such as a homestead exemption. While state-

owned roads are financed by state departments of transportation (DOTs), "property taxes are typically used to finance local road networks," which usually involves sidewalk features as well (Ardila-Gomez & Ortegon-Sanchez, 2016). General obligation bonds at the municipal level are often repaid from property tax revenue, meaning bond funding used for sidewalk investments often come from property taxes. Additionally, maintenance of existing sidewalks is typically funded through a city's operating funds, which primarily come from property taxes.

Overall, property taxes are considered a regressive tax, though less so than sales and excise taxes. Property taxes are associated with other equity issues as well. While the rate of a property tax may remain the same, in rapidly gentrifying areas and/or where home values are growing at a fast rate, the resulting increase in property taxes owed can cause displacement and greater inequality in a city. However, despite these equity concerns a study of funding mechanisms for sidewalk maintenance in Albuquerque, NM found that increasing the city's property taxes rate (compared to raising the gross receipts tax or gas tax), would be the most equitable and least expensive option for generating the revenue needed to fund city sidewalk maintenance (Rodriguez & Rowangould, 2017). However, revenue generated from property taxes typically goes to a city's general fund, unless there is an additional special assessment that would dedicate that funding for a particular purpose like sidewalks. Special assessments will be discussed in more detail in the value capture section.

Sales, Use, and Excise Taxes

Sales, use, and excise taxes are a popular form of raising revenue since they charge tourists and visitors in addition to residents. Sales and excise taxes differ in that sales tax apply a percentage rate to the final value of eligible goods or services while excise taxes charge a per unit amount (for example, the gas tax is an excise tax since it charges per gallon of fuel). Sales, use, and excise taxes come in many forms, in addition to the more familiar tax placed on consumer goods. For example, many local governments have

specific sales and use taxes on particular industries, such as a Hotel Occupancy Tax, Vehicle Rental Tax, Mixed Drink Tax, etc. 29 states authorize local option sales taxes in addition to state sales taxes and Texas is one of those states. However, Texas sets a limit of a combined 2% sales and use tax on top of the state's 6.25% for all local taxing jurisdictions (cities, counties, transit authorities, etc.), meaning that the sum of the rates levied by all local taxing authorities cannot exceed 2%. The Austin area has the full 2% optional local sales tax, with 1% returning to both the City of Austin and a relevant taxing jurisdiction and 1% directed towards the Austin Metropolitan Transit Authority (CapMetro) for a total sales tax rate of 8.25%. Because of this, Austin is restricted in raising its local sales and use tax rates any higher. One possibility of raising additional sales and excise tax revenue without adjusting rates would be to expand the base of goods services to which the sales or excise tax rate is applied. Many industries and services in Texas are excluded from the tax base, such as telecommunications services which are subject to state tax but are exempt from local sales taxes (Texas Comptroller of Public Accounts Office, 2019). Other options available to Austin, TX include recalibrating how the legally allowed 2% rate is allocated. San Antonio, TX uses a portion of their sales tax to fund sidewalk infrastructure needs, which will be highlighted in the case studies in part two of this report.

There are several equity concerns with sales taxes. Texas' heavy reliance on sales and excise taxes to generate revenue (versus income tax, which the state does not have) makes it one of the most regressive states in the country. Sales taxes are inherently regressive because it "applies only to spent income and exempts saved income … high earners are able to save a much larger share of their incomes than middle-income [or poor] families" (Davis, et al., 2015). Additionally, the use of sales taxes for certain types of transportation projects may also strike some as inequitable since inherently some people are paying into these investments that they may not directly benefit from. However, the fact that local governments are increasingly more reliant on this mechanism reflects a "steadily shifting [of] the financial base of our transportation system from user fees to general taxes paid by all citizens, regardless of their direct reliance on the transportation system" (Wachs, 2006).

Gas Taxes

In addition to the federal gas tax, every state has a state-level gas tax on top of the federal gas tax rate of 18.4 cents a gallon, though the rate varies from state-to-state. Some states authorize local governments to levy additional gas taxes at the local level. Like the federal government, many local governments have historically been hesitant to raise the local gas tax for transportation investments due to lack of political support, though this appears to be changing as voters see the value of local transportation investments (Springer & Ghilarducci, 2004).

One of the criticisms of the gas tax (at all levels of government) is that it is an excise tax that taxes per unit of consumption, rather than an ad valorem tax that taxes the total price of the gas purchased. As vehicles grow more fuel efficient (due to both market demand for fuel efficient vehicles and EPA fuel efficiency standards) and the rate of inflation grows, the value of the tax decreases and requires legislative intervention to raise the tax (Adams et al., 2001). Additionally, some users are critical of gas taxes being used on non-roadway transportation investments (including sidewalks) since it violates the concept that only payees of the gas tax should benefit from gas tax revenue (usually through roadway improvements). However, investing in non-automobile forms of transportation can help alleviate road congestion, indirectly benefiting road users. There is also the concern that raising the gas tax too high will cause people to drive less, therefore lessening the amount of revenue generated by the gas tax. However, "gasoline is, by its nature, a relatively inelastic good, meaning that demand is not very responsive to price" and considering that the federal gas tax amount has never been set high enough to truly influence driver behavior, local gas tax increases are unlikely to have a strong effect (Eno Center for Transportation, 2014).

Texas does not authorize local governments to levy an additional local fuel option tax on top of the state gas tax, so it is not a viable option for the City of Austin currently. However, should Texas change its authorization legislation around local fuel option taxes, the city should certainly consider adding it to its portfolio of revenue generation

mechanisms for transportation investments. However, even if local option gas taxes become available to Texas' cities, local governments should temper their expectations of any revenue generated by the tax. Even in a car-centric state like Texas where commuters are used to driving long distances, gas tax revenue as a share of overall state tax collections has declined sharply since 1995 and are currently at an all-time low (Heleman & Wright, 2016).

Income/Payroll/Employer Taxes

Texas is one of seven states that does not have a state income tax, which contributes to its ranking as one of the most regressive states for taxation. Of the states that do have a state income tax, only fifteen of them authorize local governments to levy individual income taxes, usually for general fund purposes. Of those fifteen states, only four (Kentucky, Indiana, Oregon, and Virginia) have used these funds for transportation investments (Elmer & Leigland, 2014). Unlike federal or state income taxes, local income taxes usually have a flat rate which means they are not as progressive as their federal and state counterparts. Local income taxes can have some geographic equity concerns as well, since they are limited only to their jurisdiction and non-residents who live just outside of city limited may still benefit from a city's transportation network. In larger metropolitan areas, local income taxes in a central city may cause some residents to move to a neighboring suburban municipality with a lower (or nonexistent) income tax rate and commute longer distances just to avoid the tax (Goldman & Wachs, 2003). However, as the Fort Wayne, IN case study shows, local income taxes dedicated to active transportation can have a huge impact on the city's sidewalk network.

Another option is an Employer tax, which can help prevent geographic imbalance since it ensures that commuters also pay into the tax, though similarly it may encourage businesses to relocate to avoid the tax. Oregon, in addition to authorizing local individual income taxes, stands out for allowing local jurisdictions to levy employer taxes for transportation revenue in addition to the statewide transit tax. The Tri-County Metropolitan

Transportation District and the Lane Transit District both have authority to levy employer taxes that fund transportation investments. The rationale for employer taxes for transportation investments is sound. Transportation networks allow employees to get to and from work to function, especially in industries that do not allow telework. As such, employers are considered beneficiaries of the local transportation system and should contribute to the costs of such a system.

While these types of taxes are not available in Texas currently, policymakers should keep them in mind as they seek ways to fund needed transportation improvements. While most contemporary examples of income/employer taxes used for transportation financing are focused on funding public transit, it's not unreasonable to assume that such a revenue mechanism could dedicate a portion of revenue towards pedestrian infrastructure projects, especially in walkable communities where there are larger populations of employees that walk to work.

USER FEES

As previously mentioned, the post-WWII era of transportation financing in the US has been characterized primarily by a user fee model, especially at the federal and state government level. Traditionally, user fees have come in the form of gas taxes and tolling, and revenue has been restricted to expanding the highway/roadway systems. While local governments are increasingly turning to non-user fee-based revenue sources, user fee funds are still one of the largest sources of transportation funding in the US. However, user fee models have limited application for funding large sidewalk networks, which are a public good with hard to define users (though, arguably all city residents are sidewalk users and beneficiaries). It is possible that, like the mass transit set aside from the federal gas tax, some portion of user fee revenues can be set aside for pedestrian infrastructure project. However, the only real example of this in practice would be any federal funds that are dedicated to active transportation projects (which, as stated, are minimal). As a result of

their limited application, this report will only provide a brief overview of traditional user fee mechanisms.

VMT Fees

Due to the problems outlined with the gas tax that have led to decreasing revenue, many transportation policy experts are now advocating for some type of distance-based user fee. The most popular form of such a proposal is a Vehicle Miles Traveled (VMT) fee. Unlike the gas tax, a VMT fee wouldn't lose revenue with increased vehicle fuel efficiency standards. As of now, four states have implemented some type of VMT or Road User Charge (RUC) pilot program to examine the performance of such a mechanism and several other states are in the planning stage for their own systems. However, at this stage VMT fee mechanisms have several problems that would need to be addressed before widespread adoption, namely the administrative burden caused by fee collection. The gas tax is relatively cheap to administer since the tax is collected at the pump. A VMT fee, on the other hand, would require individual collection from every roadway user and some type of fraud-proof tracking system that would be costly to develop and implement. Another concern is that, a VMT fee does not charge higher fees for trips that put excessive demand on the system, such as rush hour commuting. Finally, like the gas tax, the VMT fee is a flat rate that would lose value with inflation and thus requires political will to raise fees regularly (Adams et al., 2001). Currently, even a set aside of a VMT fee is not a realistic source of pedestrian infrastructure funding.

Tolls/Vehicle Registration Fees

Tolls and Vehicle Registration Fees are other types of user fees that help fund transportation projects (primarily roads), though they are not usually used to fund active transportation projects. Tolls are primarily used for fixed, capital-intensive projects like bridges and tunnels. While toll revenue can continue to be collected for other transportation projects once the original toll project is complete, it is unlikely that this revenue would be used for sidewalks (Elmer & Leigland, 2014). Additionally, toll roads in Texas are very

politically charged. Despite the fact that over 500 miles of Texas highways are tolled, the state legislature passed a moratorium on new toll projects with private companies (with a number of exceptions) in 2007 and public opposition to tolling roads in the state remains high (Batheja, 2015).

Another user fee option is a local option vehicle license and registration tax, which is authorized by the state of Texas and used by all but 20 counties in the state. Unfortunately, in Texas the revenue generated by this local option tax is restricted to road projects, though some money can be used for safety projects (Goldman & Wachs, 2003). Another constraint is that this local option is currently assessed at the county level, meaning cities do not have authorization to determine what projects to fund with this revenue. This limits the ability of Texas cities to use these funds specifically for sidewalk projects.

Fines

The practice of generating transportation revenue through traffic enforcement fines became popular in municipalities in the 1960s and 70s and is still used today, though their usage is often the subject of controversy (Adams et al., 2001). While theoretically fines are intended to enforce traffic laws and thereby improve public safety, public perception is that they are simply revenue machines that negatively affect public safety and disproportionately target low-income communities of color. For example, in smaller cities where budgets may largely be comprised of traffic safety fee revenue, one study found that a 1% increase in the city's fines, fees and forfeitures correlates to a 3.7% decrease in solving violent crimes (Foster & Weiss, 2018). A 2017 report from the U.S. Commission on Civil Rights finds that low-income communities and communities of color are often targeted for enforcement more than other residents (Kim, 2018). Relying on fee systems for revenue may not be particularly effective anyway. Because fee penalties are more likely to fall on low-income individuals who cannot afford to pay the fine, "jurisdictions collect far less than expected and waste resources chasing down payments that won't materialize" (Kim, 2018). Changing priorities in law enforcement efforts can also cause budget

shortfalls in governments that are too reliant on fee revenues to fund their operations, which happened in the state of Nevada in 2015, leading to a projected $1.4 million shortfall in its next biennial budget (Ford, 2015). Suffice to say, fines should not be considered as a primary source for funding sidewalk investments.

Curb Access Pricing and Management

Curb access pricing and management has the best potential for funding sidewalk infrastructure compared to other user fee mechanisms. Due to increased technology and new mobility schemes that are changing the way we think about transportation; the curb is suddenly a hot commodity. While in the past curb space was typically relegated to inexpensive (or even free) street parking for local business customers, more and more cities are realizing the economic benefits of efficient use of curb space, particularly in downtown spaces where transit and active transportation bring in far more customers than cars do (Goffman, 2018). Major strides have been made with dynamically priced on street parking schemes that capture the true value of curbside parking spaces. In addition to street parking schemes, cities are starting to think more holistically about curb access management which would also include dockless mobility (such as e-scooters and electric bikes) usage, ride-hailing pick-up/drop-off sites, transit stop access, freight delivery access, etc.

While the potential value of the curb space is hard to monetize, it is estimated that minimum parking requirements created a subsidy for parking infrastructure the size of the Medicare or national defense budgets (Elmer & Leigland, 2014). In some locations, the value of some curbside locations is so astronomically high that true market value could potentially merit using the location as public space rather than as parking (National Association of City Transport Officials, 2017). As cities grapple with major disruptions in the traditional transportation system, curbside access management could provide a new source of revenue for transportation projects (Goldsmith, 2018). Considering that the value of curb access is typically higher in areas with sidewalk infrastructure (since it provides increased access to businesses and services for customers and freight delivery companies

taking up curb space) it is reasonable to argue that revenue generated by curb access management schemes should be dedicated to improving sidewalk and other-curb related infrastructure (curb ramps, etc.).

VALUE CAPTURE

Value capture mechanisms are some of the most promising revenue generating mechanisms available to local governments for financing transportation projects, particularly active transportation transit projects, which research has shown leads to increased property values. Capturing the value of pedestrian infrastructure makes sense economically. While more traditional transportation funding mechanisms apply to the different groups of users who benefit from their particular mode of travel (for example, motor vehicle operators pay gas taxes, tolling, etc. while transit passengers pay transit fares), users of all transportation modes walk at some point in their day meaning that everyone is a beneficiary of their local sidewalk network (Zhao et al., 2012). The sidewalk provides value to everyone and that value should be captured in order to improve the pedestrian experience. Unfortunately, local governments often encounter strong resistance to these types of funding mechanisms since the value amount added by a strong sidewalk network is often intangible to most users and because it is difficult to quantify the difference between the benefits received by the general public and benefits received by individuals (Zhao et al., 2012). However, increasing use of technology to manage these assets and an increased awareness of the importance of pedestrian infrastructure are helping promote value capture initiatives in cities across the country.

Transportation Utility Fees

Transportation Utility Fees (TUFs) treat transportation as a utility and charges for it as such, rather than relying on any type of taxing structure. Like electric or water utilities, properties are charged depending on their level of use (typically determined by the estimated number of trips associated with a property type) and the fee is applied to the resident's utility bill. The rationale is that "properties that generate more trips 'consume'

more transportation infrastructure use … [and] thus are expected to pay larger contributions to maintenance expenses" (Ardila-Gomez & Ortegon-Sanchez, 2016). Most TUF mechanisms use trip generation rates prepared by the Institute of Transportation Engineers (ITE), though these rates are criticized as being too suburban-centric (Voulgaris, 2016). While this mechanism is not specific to sidewalk infrastructure, it helps cover the cost of street maintenance which includes sidewalk improvements and maintenance. TUFs are considered a value capture mechanism since they are reflective of any transportation benefits received by residents in a particular area. They are unique in the sense that they apply to all property occupants (renters and owners alike), not just property owners. Cities benefit from TUFs in ways that they don't benefit from other types of funding mechanisms because the fees occur on a monthly basis (and are therefore dependable). Additionally, TUFs help close the gap in maintenance costs that are not covered because of mechanisms with declining revenue streams over time, such as gas taxes (Springer & Ghilarducci, 2004). Austin, TX has already implemented a TUF mechanism (called a Transportation User Fee), however residents who do not own or regularly use a motor vehicle can opt out of the fee. Cities implementing TUF schemes should consider the potential of legal challenges; three state Supreme Courts have already ruled against their use on the rationale that they are illegal property taxes (Voulgaris, 2016).

Tax Increment Financing

Tax-increment financing (TIF) has become increasingly popular among municipalities in states with TIF-enabling legislation (all states except for Arizona) since it provides a way for local governments to access a district's future property and/or sales tax revenue to pay for present-day capital investments. One of the unique aspects of a TIF compared to other mechanisms is that the proposed district must meet the "blight" or "but-for" requirements usually found in TIF-enabling legislation. In Texas, TIFs must meet the "but for" requirement, meaning that the municipality must "attest to the fact that the area would not develop in the absence of incremental revenues derived from the creation of a TIF district" (Weber & Goddeeris, 2006). Following the establishment of a TIF district,

the tax revenue on the base property value continues to belong to the normal taxing authorities while the incremental assessed value in the TIF district goes to the TIF authority for the entirety of the TIF timeframe (or until the upfront monies have been paid back, depending on the state). The key is that the rate of taxation does not change as a result of a TIF, only the assessed value of the properties changes, resulting in increased tax revenue.

TIF schemes are attractive to municipalities for many reasons. By using a TIF, municipalities can access the needed financial resources up front without pulling funds from the city's operating budgets. TIFs can also generate surplus revenue that can act as a financial cushion should property values not appreciate as expected or can be used on other TIF-district related projects without using general operating funds. Finally, TIFs can be an excellent way to stimulate development in an area that would otherwise not be attractive to developers. However, TIFs also present some risks for municipalities, since the TIF district can impose new demands on the municipality without providing tax revenue into the general fund (since they money is going straight into the TIF) (Kerth & Baxandall, 2011). Another disadvantage of TIF schemes are that they "may fail to account for future growth in property values caused by factors that have nothing to do with the TIF investment" which could necessitate a government bailout (Kerth & Baxandall, 2011). Other negative factors to consider include a TIF's potential to cause resident displacement due to the increased property values, the loss of a city asset (if land being sold to a developer), and the absence of voter accountability associated with other types of funding mechanisms.

Special Assessment Districts

As defined by the FHWA, "special assessments involve assessing incremental property taxes on land and often the buildings on that land deriving direct benefits due to a transportation improvement. The tax levied typically represents a portion of the estimated benefit to the properties located with a designated zone in close proximity to the improvement (USDOT Federal Highway Administration, n.d.) Special assessments are one

of the more prominent value capture mechanisms used in cities and are authorized in all 50 states (including for non-transportation infrastructure). The rationale behind a special assessment district is that public entities can collect revenue from property owners who directly benefit from public investments in their area. Because the assessment is usually collected with annual property taxes, it is "considered a relatively revenue-certain form of financing" (Ardila-Gomez & Ortegon-Sanchez, 2016). Special assessment districts are not necessarily restricted to a municipal government's boundaries (for example, some can be county-based and partially encompass city land). Business Improvement Districts (BID), Sales Tax Districts, Transportation Improvement Districts (TID) / Transportation Development Districts (TDD), and Parking Benefit Districts are all variations of the special assessment district (thought the parking benefit district only generates money from parking fees and is more of a curb access management tool). The major limitation of special assessment districts is that the revenues generated by the assessment must be used within that district/zone. This makes using special assessments to fund transportation infrastructure slightly harder than using such a mechanism for other types of infrastructure, since the benefits provided by transportation infrastructure are not limited to that district's residents (USDOT Federal Highway Administration, n.d.). Another concern is that special assessment districts can be regressive (and therefore inequitable) since the revenue collected is tied to the level of benefit received rather than one's ability to pay (Ardila-Gomez & Ortegon-Sanchez, 2016).However, a positive example of a special assessment used to fund sidewalk improvements can be seen in the Ithaca, NY case study.

Development Impact Fees/Negotiated Exactions

Development Impact Fees and Negotiated Exactions are payments made to a local government by a developer as a condition of development. Developer impact fees are charged on new developments to help municipalities cover the costs of the new demand that this development will impose on their infrastructure systems. Negotiated exactions are similar but they are done on a more ad-hoc basis and are generally part of the process of receiving municipal development approvals (USDOT Federal Highway Administration,

n.d.). Exactions do not necessarily have to be monetary (instead developers can choose to build or provide some sort of public good). Both of these mechanisms must follow the legal requirements set forth by the court cases Nollan and Dolan[1]which require that any there must be a "rational nexus" and "rough proportionality" between the impact of the development and fee charged. These types of financing mechanisms are one-time payments collected during the planning/design/construction phase of a project, not continuous sources of revenue. The stability of this revenue is linked to the local economy and demand for new development, meaning they are not stable sources of funding (Ardila-Gomez & Ortegon-Sanchez, 2016).

Congestion Pricing

Congestion pricing is a pricing strategy that charges higher prices for access to central city roadways during peak hours. This strategy helps manage demand of strained transportation infrastructure and creates new revenue for other modes of transportation, since the revenues from the higher prices are typically used to fund improvements to transit and active transportation infrastructure. There have been several positive examples of congestion pricing schemes internationally, the most notably being Singapore and London. London's cordon pricing system has been successful in generating revenue for bicycle and pedestrian infrastructure, with 3% of net revenues (approximately $4 million) spent on new bicycle/pedestrian infrastructure as of 2007 (Riggs & McDade, 2016). However, despite the fact that airlines already use a form of congestion pricing (charging higher airfares for peak travel days), implementing congestion pricing schemes on U.S. roads has never been seen as politically viable (Elmer & Leigland, 2014). While NYC is close to getting a congestion pricing plan approved for the Manhattan area, the likelihood of such a strategy having success in Austin, TX is very low.

[1] *Nollan v. California Coastal Commission* and *Dolan v. City of Tigard*

Borrowing

In addition to generating revenue, local governments can borrow funds to pay for needed transportation investments up-front, rather than waiting for a revenue generating mechanism to build up enough funds first. There are many benefits to borrowing funds for transportation infrastructure needs. Transportation infrastructure is a capital investment, typically involving a large construction project that takes a long time to complete and serves the resident population over many generations. Borrowing provides the financial resources needed up front without pulling funds from the city's operating budget, ensuring that a city will not have to consider general service cuts resulting from the project or from unforeseen expenses that cause delays. Also, borrowing creates generational equity for long-term projects ensure that the generations who will benefit from the added property value and other positive developments will help pay for the construction of the project.

While sidewalks seem like a smaller investment compared to a transit line, for example, installing miles and miles of sidewalk (along with other pedestrian safety infrastructure like curb ramps, crosswalks, etc.), is an expensive capital project, which is why many local governments rely on borrowing tools like bonds to fund their construction and maintenance. However, the increasing reliance on debt financing for transportation projects may just mask a larger crisis of our political system's inability to implement a more stable form of revenue generation for transportation projects. As transportation policy and financing expect Martin Wachs points out, many transportation projects have relied on debt financing just to get "get needed projects off of the ground as traditional revenue sources have run dry rather than by dispassionate calculations of expected benefits and costs" (2006). This is worrisome, considering that borrowing (also referred to have "innovative financing") has become an increasingly popular option for financing transportation projects over the last two decades (Wachs, 2006). Borrowing alone is not enough for funding transportation investments. Borrowing must go hand in hand with revenue generating mechanisms to ensure that local governments can pay off their debt without making cutbacks later.

Municipal governments have several sources of debt financing available to them, which are outlined in this section. Debt financing is a politically appealing method of funding transportation projects since it does not involve directly increasing taxes and the funding for projects is available upfront (Wachs, 2006). Borrowing sources available to a local government can come the federal and state government or even from that local government's own sources of revenue. Most sidewalk funding coming from borrowing sources come from municipal bonds, though there are some examples of local governments tapping into federal and state sources of debt for sidewalk projects.

MUNICIPAL BONDS

Like private corporations, governments can also issue bonds that are repaid with taxes or other special revenue streams such as user fees, exactions, etc. Bonds issued by a government entity are referred to as municipal bonds and the interest received by the investor is not subject to federal taxes (and depending on the state, state/local income taxes). Municipal bonds are typically used for infrastructure projects with a long lifespan and issuance of said bonds depends on a city's credit rating, current debt level, and voter approval. Municipal bonds typically come in the form of general obligation bonds, which are repaid by city property taxes. In addition to general obligation bonds, cities can use revenue bonds which are issued based on the future revenue stream of other financing mechanisms that do not affect the property tax rate. These revenue sources can include sales tax revenue, gas tax revenue, or tolling revenue. There are many benefits provided by municipal bond financing (keeping the annual operating budget intact, generation equity, etc.), which is why city's find them to be such an attractive option for infrastructure funding.

However, there are negative aspects of municipal bond funding that cities should consider. First, carrying too much debt may negatively affect the jurisdiction's credit rating, which could affect future bond propositions. "Many states, cities, and public authorities have already amassed millions, if not billions, of dollars of debt associated with

past construction and improvements which limits their ability to return to the tax-exempt bond market" (Riggs & McDade, 2016). Also, some flexibility with annual tax revenue is lost each year as a certain amount of money is immediately directed towards debt repayment. Despite the tax-exempt nature of government bonds, interest payments over time can still make a project more expensive than had it been funded by a "pay as you go" scheme (Wachs, 2006). Additionally, bonds associated with Tax Increment Financing zones (TIFs) or other value capture mechanisms have the added risk that the value capture mechanism may not generate the projected revenue, leading to an expensive bailout (Kerth & Baxandall, 2011). Finally, bonds are subject to voter approval and are therefore not guaranteed sources of funding. Local government agencies that are hoping to secure future bond funding for a transportation project may see their project stalled should voters reject the bond measure. For example, the City of Austin is considering another transportation bond in 2020 to fund high-capacity transit system and it's possible the measure would have some additional funding allocated for sidewalks. Should this measure fail (like the 2000 and 2014 transit bond measures), future sidewalk construction could be delayed even further.

The recent success of transportation infrastructure bond measures with voters could indicate to city officials that voters are open to implementing dedicated sources of funding too. Almost all cities now rely on voter-approved measures and the fact that voters are willing to approve local funding mechanisms for transportation illustrates a growing public awareness of the funding gap faced in their cities and counties. Infrastructure bond success at the polls also illustrates a willingness by the public to pay more for congestion relief, improved roadway surfaces and multi-modal transportation options to improve quality of life" (Riggs & McDade, 2016).

ADDITIONAL DEBT SOURCES

There are also federal and state sources of debt that local governments could potentially tap into, though these funds are unlikely to be viable for funding long-term

sidewalk infrastructure needs. These sources and their potential use for sidewalk infrastructure needs are outlined below. Overall, these sources have low potential for sidewalk funding since sidewalk projects are only considered eligible for funding if they are part of a larger surface transportation project.

- **Transportation Infrastructure Finance and Innovation Act (TIFIA):** The Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides a source of credit assistance from the federal government for eligible surface transportation projects. While sidewalks and pedestrian infrastructure alone are not likely to be enough for TIFIA consideration, transit-oriented development projects (which typically come with pedestrian improvements) are considered TIFIA-eligible projects.
- **GARVEEs/GANs:** Grant Anticipation Revenue Vehicles (GARVEE Bonds) and Grant Anticipation Notes (GANs) are financing instruments that allow states to finance transportation projects based on expected federal funds. States or local agencies borrow from bond investors and use future federal dollars to repay the debt. While these tools are largely limited to highway and transit projects, there have been examples of GARVEE funds being used for sidewalk installation, such as the use of GARVEEs to fund sidewalk and shared bike/pedestrian path installation in the Virgin Islands in 2015 (USDOT Federal Highway Administration, 2018).
- **State Infrastructure Banks (SIBs):** Debt financing funds can also come from SIBs, which were authorized in 1995 as a part of the National Highway Designation Act (NHS). SIBs "provide 'revolving funds' that enable projects to be built through borrowing, and funds to accumulate in the banks through the repayment of the principal plus interest" (Wachs, 2006). Candidate projects for SIB assistance include any eligible highway project under Title 23 of the U.S. Code. While sidewalks alone are not going to be a candidate project for SIB assistance, sidewalk

improvements can be enveloped into a larger, capital-intensive project that would benefit from SIB assistance.

Other Considerations for Local Governments

The Role of Private Funding

Should local governments fund sidewalks at all? Historically, sidewalk funding has largely come from private sources. This is because sidewalks are often considered the responsibility of private property owners since they are closely associated with the abutting buildings and are used for a variety of purposes beyond transportation (sidewalk cafes, kiosks, etc.), unlike roads which are used solely by vehicles (Loukaitou-Sideris & Ehrenfeucht, 2009). In many cities this is still the case, with property owners being responsible for maintaining the sidewalk on their property. Some researchers argue that this type of sidewalk funding system is the best for increasing sidewalk networks. In a 2010 article in the Journal of Urban Planning and Development, author Donald Shoup argues for what he refers to as "point-of-sale" programs similar to a Certificate of Occupancy program. A property inspection conducted by the municipal government as a condition of the sale of the property would include the sidewalks fronting the property and sidewalk repairs completed prior to the sale. This allows the property's owner to use funds from the sale of property to pay for these improvements. Shoup points out that, "if Los Angeles has adopted a point-of-sale program in 1995, about half of the city's 4,600 miles of broken sidewalks would have been repaired by 2007" (Shoup, 2010). However, as other planning researchers point out, this system is highly regressive since it places a disproportionally high burden upon low-income earners – those most likely to use sidewalks as a primary mode of transportation" (Rodriguez & Rowangould, 2017). Additionally, relying on point of sale programs is not thought to be particularly effective in areas where properties are experiencing slow rates of turnover. Some cities have had some limited success in "leaning in" to privately funded active transportation projects. The Downtown Denver Partnership (DDP) and the City of Denver partnered to crowdfund a bike lane, eventually raising

$36,000 from 200 donors (Miller & Coutts, 2018). While this idea is unique and could useful for small projects, this is not a reliable source of long-term funding citywide.

Private property owners are not the only sources of private funding of sidewalks. Developers have been instrumental in expanding the sidewalk network as a result of city ordinances requiring their installation during new construction or major development. Even in Austin, the majority of new sidewalk installations in the recent past have come from private developers as a condition of development. This is particular true in the downtown area, which has experienced a rapid increase of private redevelopment in a short amount of time (Henry, 2015). However, relying solely on developers to build out the sidewalk network is not particularly effective or equitable. Relying solely on developers means that neighborhoods without any development projects will not get sidewalks. It also means that new sidewalk construction will be patchy and disconnected, which negates potential walkability gains from new sidewalk construction. Finally, relying on developers means that there will be no funding for future sidewalk maintenance, which is an important component of investment in a sidewalk network. The City of Austin left the construction and maintenance of sidewalks to private entities (either private property owners or developers) until the 1990s, which resulted in the current, dismal situation. Clearly, local government responsibility for sidewalk funding is necessary is the city is truly interested in improving walkability city-wide. As such, local governments carefully evaluate of what types of funding schemes have the best potential for funding their local sidewalk needs over the long-term.

GRANT FUNDING

In addition to local funding source, local governments have access to federal grant programs that can help fund sidewalk infrastructure. Federal funding for bicycle and pedestrian-related projects at the local level comes primarily from the following programs:

- Surface Transportation Block Grants (STBG)
- Congestion Mitigation and Air Quality Improvement Program (CMAQ):

- Highway Safety Improvement Program (HSIP)
- Community Development Block Grant (CDBG)

While none of these programs are specifically targeted to pedestrian infrastructure, all of these programs allow for funding of eligible bicycle, pedestrian and streetscape projects at the local level (Riggs & McDade, 2016). Of the programs listed, the STBG funds have the best potential for funding sidewalk infrastructure since they help fund Transportation Alternatives (which include a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, etc.). However, local governments can access the other programmatic funds for specific projects that meet eligibility requirements (usually showing that the project will help improve air quality or improve road safety). It is important to keep in mind that most projects that can be funded by a federal funding program must have some local match funding. The maximum share of project costs that can be funded by federal money depends on the funding program and the type of project. Non-Interstate Highway projects have a "Standard Federal Share" of 80%, meaning local governments must provide the funds for the remaining 20%. As such, local governments must still consider what local funding mechanisms they can use to fund their transportation projects.

The next section of this report highlights case study cities that have implemented some of the mechanisms reviewed in this chapter to fund their sidewalk infrastructure needs. Since the City of Austin, TX primarily relies on borrowing for sidewalk funding, the mechanisms evaluated in the identified case studies focus on revenue generating mechanisms only.

CASE STUDY RATIONALE AND METHODOLOGY

Research on local government funding mechanisms for pedestrian infrastructure is limited for several reasons. First, the push for greater pedestrian access is still relatively recent in most cities, especially those that matured after WWII, when auto-centric development dominated. Second, pedestrian infrastructure is rarely the sole focus of an infrastructure project; instead, it is often lumped together with a roadway project, transit-oriented development, or larger active transportation investments (including expanding bicycle path networks, mixed-use and urban trails, etc.). This makes it difficult to ascertain exactly how much money a city is directing towards pedestrian infrastructure alone. Finally, pedestrian infrastructure funding is largely left to local governments and every municipality is unique based on the specific state and local laws governing that municipality. As a result of these limitations, cities seeking to implement some type of funding mechanism for pedestrian infrastructure needs may be left with little to no guidance on best practices (Miller & Coutts, 2018).

This research report addresses this gap in the existing literature. It uses a qualitative case study research design to profile four that currently fund or have recently funded pedestrian infrastructure using dedicated or other novel financing mechanisms that could be beneficial to the City of Austin:

1. Ithaca, NY – Sidewalk Improvement District Program (special assessment)
2. Fort Wayne, IN – Local Income Tax (income tax)
3. Seattle, WA – "Levy to Move Seattle" (property taxes)
4. San Antonio, TX – Advanced Transportation District Sales Tax (sales tax)

Cities were chosen based on the type of funding mechanism used (whether the mechanism created a dedicated source of funding for pedestrian infrastructure projects), potential for adoption in the City of Austin, duration of the mechanism, and/or if the mechanism was unique (in the sense that such a mechanism is not commonly used by local governments in the U.S. as a source of dedicated funding for active transportation). To identify potential case study cities, I reviewed sidewalk policy documents for various cities

across the U.S. The initial search for case study cities began with the City of Austin's Sidewalks Peer Cities Report from 2015. The purpose of this report was to inform the preparation of the 2016 Sidewalk Master Plan and ADA Transition Plan Update through identification of best management practices. In this report, the City of Austin identified 25 potential peer cities based on three criteria: (1) "Top Ten Most Walkable Cities in the United States in 2014" based on WalkScore.com (2) Peer cities identified in the "Imagine Austin" comprehensive plan and (3) Proximity or knowledge of unique program characteristics (City of Austin, 2015). These potential peer cities were then further winnowed down by population size and density as well as land area.

Two of the final peer cities included Seattle, WA and San Antonio, TX. Of the seven peer cities, these two had the most unique types of sidewalk construction and maintenance funding mechanisms identified in the "Budgets/Funding" section of the report. However, beyond identification of the mechanism very little detail about the history of their mechanisms, how they work, and their success to date. Additionally, the identified mechanisms were not listed as "Recommended Funding Sources" in the final 2016 Sidewalk Master Plan (City of Austin, 2016a). Given their status as peer cities to the City of Austin and the unique quality of the funding mechanisms used, this report chose to use these cities as case studies for further exploration. The San Antonio, TX case study was also included because, as a Texas city, it faces the same state-imposed legal constraints as Austin, TX. The Seattle, WA and San Antonio, TX cases provided examples of property tax and sales tax revenues dedicated to sidewalk funding.

Selection of additional case study cities focused on finding examples of other types of funding mechanisms that are being used by local governments to fund sidewalk infrastructure. Academic literature and sidewalk policy documents from various government agencies were reviewed for examples of best practices. Cities using mechanisms that are already in place in the City of Austin, TX (such as the use of Transportation Utility Fees or TUFs) were not considered. The use of special communitywide assessments in Ithaca, NY was mentioned in the FHWA's "A Guide for Maintaining Pedestrian Facilities for Enhanced Safety", which prompted further research

into their program (Federal Highway Administration, 2019). While Ithaca, NY was initially considered too small of a city to compare to Austin. TX, ultimately it was chosen as a case study because of the success of the program and the unique use of special assessment districts, which were applied city-wide. Finally, this report sought to highlight an example of a local income tax being used for sidewalk investments, due to the rarity of such a mechanism at the local level. Existing academic literature on transportation funding identified four states (Kentucky, Indiana, Oregon, and Virginia) where local option income taxes were authorized and tied to transportation investments. Google search queries were used to determine which local governments in these states, if any, dedicated local income tax revenue to pedestrian infrastructure. Local news articles identified a recent local income tax increase in Fort Wayne, IN that would fund sidewalk construction and maintenance citywide. While the tax increase is still relatively new, initial reports highlighted the success of the tax increase which merited further exploration. Again, while Fort Wayne, IN was initially deemed to small (due to its population and land area size) for comparison with Austin, TX, because it was the only local government specifically dedicating local income tax to sidewalk infrastructure, it was included.

Through this case study evaluation, this study asks,

1. What funding mechanisms can municipalities use to fund sidewalk construction and maintenance that will provide a stable source of dedicated revenue into the future?
2. What challenges will a city like the City of Austin, TX face when seeking to implement such a funding mechanism?
3. How have these funding mechanisms performed since implementation and are they supporting the local area's walkability/mobility goals?

For this study, data from each of the selected cities was analyzed with the aim of providing substantive answers to each of these questions. Data collection for this study included primary- and secondary-sources: (a) analyses of government documents such as local ordinances, capital improvement programs (CIP), budgets, financial statements, government reports, city comprehensive or mobility plans, bike/ped project documents

(including committee reports, memos, public presentation files, and preliminary and construction documents), and government websites; (b) scholarly articles, books, theses or dissertations, other case studies; and (c) any relevant reporting from popular media, including both local and national news sources. News articles were used to understand the history of the funding source (how it came to be, if there were any political challenges during their proposal and implementation, how the community has responded post-implementation, etc.) while government documents (such as policy documents and official budgets) were used to determine how the mechanism was implemented, how the funding from these mechanisms ties into long-term mobility goals, and how much revenue the mechanism has generated since implementation.

Following the case study analysis, this study pulls out common themes across the case study cities and applies the lessons learned from the cases to the City of Austin. It also provides a discussion of what legal constraints Austin may face should it choose to pursue one or more of the funding mechanisms used in the case studies. Further, it discusses changes that may be needed at the statewide level to help improve municipal efforts to fund local pedestrian infrastructure in Texas.

CASE STUDIES

Table 3 provides a brief overview of the case study cities in this report, providing contextual information, funding mechanism used, and the revenue generated by the mechanism (including revenue per capita).

	Austin, TX	**Ithaca, NY**	**Fort Wayne, IN**	**Seattle, WA**	**San Antonio, TX**
2018 Population estimate	964,254	30,999	267,633	744,955	1,532,233
Land area (sq. mi.) *excludes water*	298	5.4	110	84	461
WalkScore®	40	68	29	73.1	38
2017 Population that walks to work (%)	2.3%	38.4%	1.2%	10.2%	1.7%
Sidewalk needs	2,200 miles absent / 1,920 deficient	42 miles missing / Ongoing maintenance citywide	325 miles absent / 1600 miles deficient	835 miles absent / 1,074 miles deficient	1,900 miles absent / 295 miles deficient
Primary funding source	Bonds	Special Assessment Districts Communitywide	Local Option Income Tax (1.48% with 0.13% going to sidewalks)	Levy to Move Seattle (9- year property tax assessment)	Advanced Transportation District Sales Tax (0.25% sales tax)
Funding type	Borrowing	Value Capture	Tax	Tax	Tax
Implementation year	2006, 2010, 2012, 2016, 2018	2014	2017	2016	2004
Annual revenue dedicated to sidewalks *(approx.)*	$ 4,880,000 *(average bond dedication from 2006 – 2026)*	$ 865,000	$ 8,700,000	$ 11,500,000	$ 5,000,000
Sidewalk funding per capita	$ 5.06	$ 27.90	$ 32.51	$ 15.44	$ 3.26
Average annual sidewalk funding prior to implementation	N/A	$ 401,000	$ 3,000,000	$ 6,900,000	N/A

Table 3: Comparison of Case Study Cities with Austin, TX

Sidewalk Improvement Districts (SIDs) in Ithaca, NY

Ithaca, NY was chosen as a case study city because of its citywide special assessment district program that funds sidewalk construction and maintenance. While Ithaca's sidewalk network is fairly extensive, the city recognized that it needed a long-term funding source for ongoing maintenance needs. Unlike the other cases in this report that use different methods of taxation, Ithaca implemented a set of Sidewalk Improvement Districts (SIDs) which are a type of value capture mechanism. The unique quality about Ithaca's value capture mechanism is that it is applied citywide, not just in one area of the city. This case study examines what Ithaca's sidewalk needs were prior to the SID program, the political realities that prompted the creation of the SID program, and what the effects have been since implementation.

CONTEXT

Ithaca is a small city in New York located on Cayuga Lake, taking up only 6.07 square miles and holding approximately 31,000 people (according to the 2018 U.S. Census Bureau population estimates). The City of Ithaca is the seat of Tompkins County, as well as the largest community in the Ithaca–Tompkins County metropolitan area. Most well-known as the home of Cornell University, the city also has Ithaca College and Tompkins Cortland Community College. Between the three educational institutions, the city's population fluctuates with the academic calendar year.

Despite its smaller size, Ithaca makes a good case study city because its funding mechanism for sidewalk infrastructure is unique, simple, and extremely successful, serving as an excellent example of best practices for Austin, TX. Since the implementation of the SID program, several other cities have cited Ithaca, NY as a model when evaluating their own sidewalk funding needs. Ithaca is also a very walkable city, with a high WalkScore® (68) and a sizeable number of pedestrian commuters (just under 40% of its population walks to work). If Austin is hoping to increase its active transportation mode share, Ithaca is a good role model to follow. Of course, some of this is attributable to its size; it's easy

to walk to work if your city is very small. Also, the city has benefited from its pre-World War II history. The city was built on a grid system with gravel sidewalks installed in the late 1840s and early 1850s, carving out pedestrian space that would eventually result in today's current sidewalk network. As a result of its development history, most streets have a sidewalk on at least one side (City of Ithaca Planning Division, 2015).

HISTORY OF THE SID PROGRAM

Even though the city's sidewalk needs are nowhere near Austin's in terms of volume and magnitude, in the early 2000s the City observed that its sidewalk network was falling into disrepair and, in the areas where there were no sidewalks, nothing was being constructed. Like many U.S. cities, Ithaca's sidewalk policy prior to 2013 left sidewalk construction and repair to individual property owners. The Mayor's Sidewalk Task Force, formed in February of 2013, found that the existing policy "led to the construction of very little new sidewalk in the past twenty years … and owner resistance to sidewalk construction projects" (City of Ithaca Office of the City Attorney, 2013). Enforcement of sidewalk repair was also difficult to administer and often led to construction delays. The City decided to restructure its sidewalk policy, with the goals of reducing the disincentive to new construction, reducing the regressivity of the existing system, and make sidewalk improvements at a much faster, more efficient rate (City of Ithaca Office of the City Attorney, 2013; Nocella, 2014).

In April of 2014, following two public hearings, the City finalized its new sidewalk policy that would divide the city into five "Sidewalk Improvement Districts" or SIDS. City Transportation Engineer Tim Logue and Sidewalk Program Manager Eric Hathaway described the policy change as a "new era in sidewalk management" (Nocella, 2014).

IMPLEMENTATION AND IMPACT OF THE SID PROGRAM

The new policy established the 5 new SIDs as special assessment districts (see Figure 5) that provided an assessment against each property located in the district, with all

funding going towards the construction and repair of sidewalks (as well as curb cuts and accessibility ramps) in that district. The SID program itself covers an area of 4.4 square miles since some parts of the city were left out (for example, Cornell University's main campus is excluded since the University oversees its own sidewalks). The assessment used a two-tier fee structure:

1. Low-foot-traffic lots (1 and 2 family properties): $70 flat fee
2. All other lots: $140 flat fee with additional
    a. Variable square footage fee of $0.015 per square foot of buildings on the lot and
    b. Frontage fee of $30 for each 55 feet of lot frontage on the street

All revenue generated within a particular SID would be allocated towards improvements within that SID, ensuring that "the funds that neighbors contribute for their district [is] theirs to allocate according to their priorities" (Graves, 2014). The new policy also established that the assessment formula could be amended with future legislation and that the City has the authority to bond against future assessment funds. Additionally, the City can also require the construction or repair of sidewalk infrastructure as a condition of development without that work being used as a credit to reduce future assessments (City of Ithaca Office of the City Attorney, 2013). Finally, one of the most critical factors in the established assessment formula is that even tax-exempt properties are included in the assessment (City of Ithaca, 2013). Assessments would be in the form of a lien on the property assessed, administered by the Tompkins County Department of Assessment and collected with City property taxes.

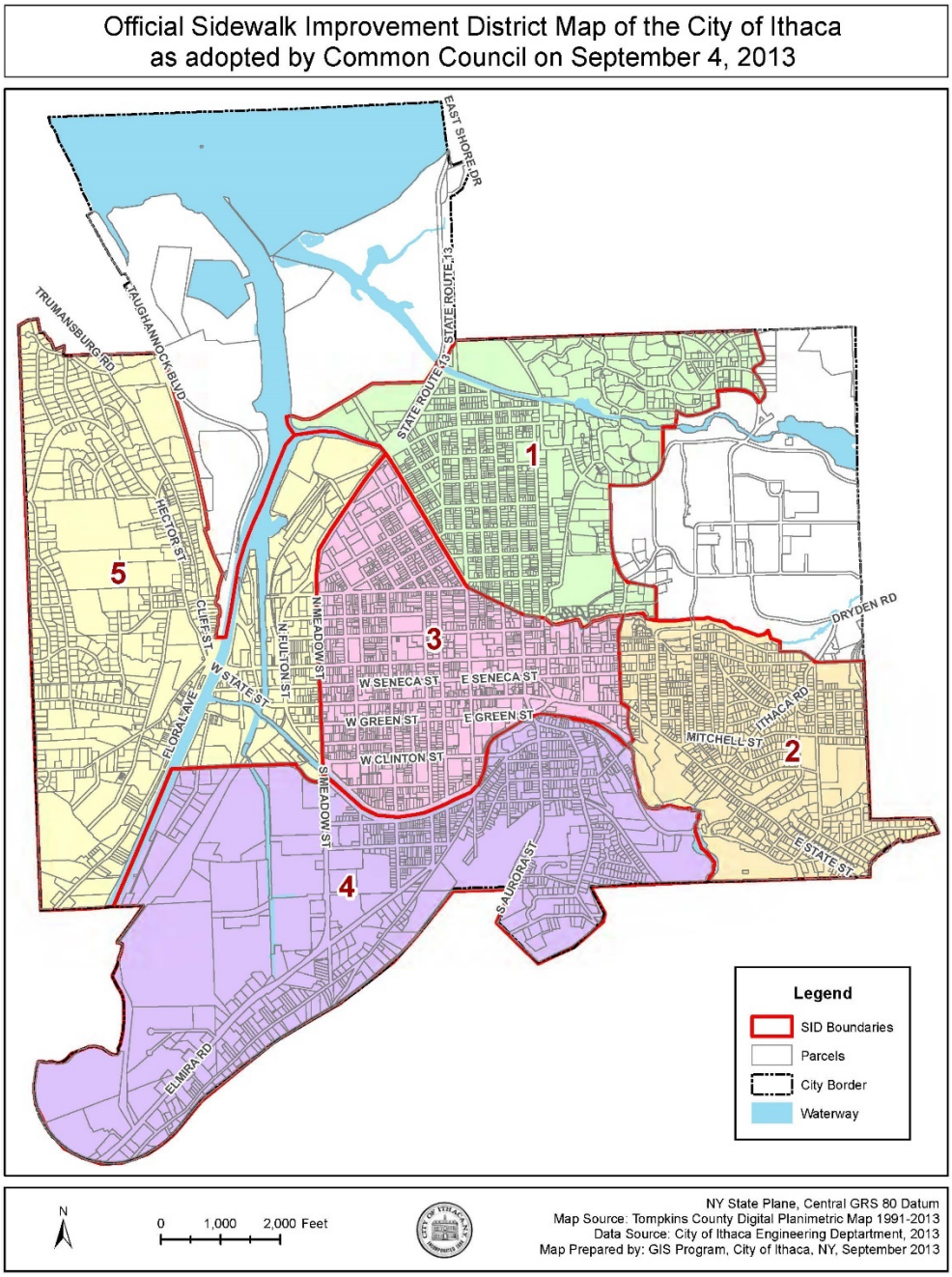

Figure 5: City of Ithaca Official Sidewalk Improvement District (SID) Map

With this increase in funding for sidewalk improvements, the city if putting its money where its mouth is. While the city does not have specific modal plans, the

transportation element of the city's 2015 Comprehensive Plan "Plan Ithaca: A Vision for Our Future" emphasizes the need for improved sidewalk infrastructure to support the city's larger goal of reduced car usage. Even with its high walking commuter rates, Ithaca acknowledges that it is still predominantly a car-centric city pointing out that "330 acres of land, nearly 9 percent of the total acreage of the city, is devoted to vehicle storage in surface parking lots … [land that could] otherwise be used" (City of Ithaca Planning Division, 2015). The plan also establishes a modal hierarchy with pedestrians at the top: "To reduce auto dependency, transportation modes shall be prioritized in the following order: pedestrian, bicycle, transit, private cars, and goods movement" (City of Ithaca Planning Division, 2015). To meet its stated transportation goals, the city recognizes that it must invest in the maintenance of its pedestrian infrastructure through a long-term, dedicated funding mechanism. The city also sets an ambitious goal of making all streets ADA accessible citywide, with continued maintenance of sidewalks being funded by the SID program.

Based on the city's estimates at the time of the proposal, the SID assessment formula will raise approximately $840,000 a year, give or take $50,000. So far, the city has been right on the mark. In 2019, SID property tax assessments are estimated to generate a total of $864,567 in revenue with the city's total property tax rate at 11.6%. In total, SID revenues account for 1% of the city's total revenue stream (City of Ithaca Planning Division, 2015). Of the revenue generated, $787,200 will be spent directly on sidewalk improvements, with the remaining portion of the revenues covering city employee salary for the program and debt service (City of Ithaca, 2018). In comparison, the city allocated a total of $401,446 (including employee salary and debt service) for sidewalk expenditures in 2012 (prior to the creation of the SID program).

From 2012 to 2019, the SID program generated a 115% increase in funding for sidewalk projects. Since implementation of the program, 13.4 miles of sidewalk blocks have either been repaired, replaced or installed, though this number is likely an overstatement since in many cases improvements may have been limited to only part of the

block (See Figure 6). While the SID area still has 42 miles of street without sidewalks, in some cases construction of new sidewalk is technically impossible (either because the street is too narrow, or it is a state highway). During the first few years of the program, the city focused their investments in areas where there had been citizen requests, complaints, or reported injuries. Now that the program has been established for a few years, it is shifting to a prioritization model for future projects. In addition to new sidewalk construction, the city's Sidewalk Program will be analyzing the condition of existing sidewalks to identify structural deficient sidewalks that require additional funding (Licitra, J. and Aslanis R., City of Ithaca, personal communication, July 30-31, 2019).

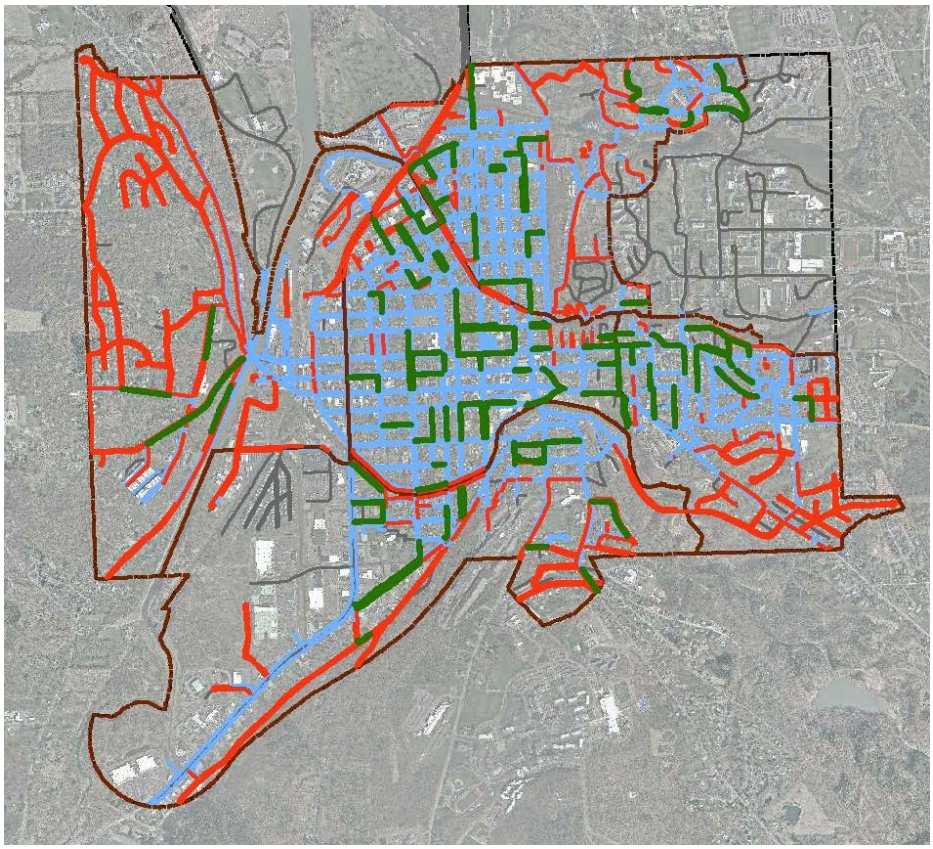

Figure 6: Map showing Ithaca's SID boundaries and sidewalk conditions. Red lines indicate where there are no sidewalks, blue lines where sidewalks exist, and green lines where sidewalk improvements have been completed since the implementation of the SID program (Aslanis R., City of Ithaca, personal communication, July 31, 2019).

Despite the city's small size, the success of this unique sidewalk funding program has been noticed by cities across the country. Dan Gelinne, Program Manager for the Pedestrian and Bicycle Information Center, praised the Ithaca model for sidewalk funding due to its efficacy and its focus on equity (Gelinne, Steps to Prioritize and Implement Sidewalks, 2019). The city of Hudson, NY recently proposed an ordinance modeled after Ithaca's program, after "numerous complaints about the state of sidewalks and how difficult they are to traverse in the city, especially for persons with mobile disabilities" (Purcell, 2019). Nashville, TN (a city more on par with Austin, TX in terms of size and development history) also has a system of pedestrian benefit zones, though they are not special assessment districts. While similar in concept (in that money for sidewalks generated by the zone stays in the zone), instead the zones are available for the collection of fee-in-lieu for sidewalk construction. The location of the development determines in which zone the fee will be collected and where such fees shall be spent for the safety and convenience of pedestrians utilizing the sidewalk or pedestrian network within that zone.

CHALLENGES WITH THE SID PROGRAM

Of course, no system is perfect. Some residents are concerned about geographical equity, based on how funds are spent within each district. Specifically, there have been some complaints about "big-ticket", capital-intensive projects that claim the majority of an individual SID's expenditure allocation. One example is the Old Elmira Road sidewalk project in District 4, which was approved prior to the formation of the SID districts. This project is expected to cost $420,000 in total (roughly half of the total annual revenue generated by all of the districts) and will be paid out of SID District Number 4's assessments at an annual rate of $28,000 over a 15-year period. Some of the District 4's residents argue that this limits their ability to fund other projects in their area and that larger projects like this one should be funded through bonds instead of using their assessment revenues (Graves, 2014). However, most inter-district equity concerns are mitigated by the fact that districts with higher economic hardships with a demonstrated need for sidewalks receive a greater amount of funding (Gelinne, Steps to Prioritize and Implement Sidewalks,

2019). In addition, the program accounts for generational equity, since property owners are eligible for reduction in their SID assessment based on any private sidewalk construction work performed within 20 years prior to the creation of the SID program.

Overall, the program has been considered a success by residents and officials alike. This funding source allows the city to focus on pedestrian goals that go above and beyond what is being done in other U.S. cities. For example, in addition to creating linkages where there are missing segments of sidewalks and maintaining existing sidewalks, the city plans to increase sidewalk widths city-wide (City of Ithaca Planning Division, 2015). Wider sidewalks allow for greater access for people with disabilities, more dynamic and attractive streetscapes, additional space for landscaping and amenities, etc. In a city that already has a robust sidewalk network, Ithaca's new source of dedicated sidewalk funding will only continue to improve the pedestrian experience. While Ithaca's specific type of special assessment district model is not a legal option for Austin at this time, Texas municipalities can have special assessment districts under certain conditions. A modified version of Ithaca's model could provide a valuable source of pedestrian infrastructure funding in Austin, TX.

Local Income Tax in Fort Wayne, IN

Fort Wayne, IN was chosen as a case study city because it dedicates part of its local income tax to sidewalk construction and maintenance. The dedicated use of an income tax for pedestrian infrastructure is rare at the local level. To begin with, very few municipalities in the U.S. even levy a local income tax and even fewer tie the revenue generated by the income tax to transportation investments. This case study examines what Fort Wayne's sidewalk needs were prior to the tax, the political realities that prompted the tax, and what the effects have been since implementation.

CONTEXT

At first glance, Fort Wayne seems like an unlikely comparison case for Austin, TX. While it is the second largest city in the state, it is still a very small city compared to Austin. The U.S. Census Bureau's estimates that the 2018 population is 267,633, which is 72% smaller than Austin's 2018 population. In terms of land area, Fort Wayne is about 1/3 the size of Austin or approximately 110 square miles. By virtue of its smaller size, the city's sidewalk needs don't seem as dire as Austin's: Fort Wayne, IN is only missing 325 miles of sidewalk compared to Austin's 2,000 (though the length of sidewalks requiring maintenance is more similar 1,600 miles versus 1,920 miles respectively). However, despite its smaller size and need, the two cities are similar in that they are both characterized by WalkScore.com as "Car-Dependent Cities" and very few residents walk to work. In 2017, only 1.2% of the population walked to work in Fort Wayne compared to 2.3% in Austin. Based on these facts, it would seem that Fort Wayne, IN is not necessarily a model city for walkability. However, in 2017 Fort Wayne, IN decided to address its sidewalk problems head on.

As mentioned previously, Indiana is one of only four states that make "specific statutory connections between local income taxes and transportation-related expenditures" with state authorization legislation for local income taxes specifying that allowable uses for the tax are transit and infrastructure expenditures (Goldman & Wachs, 2003). The state

imposes a flat 3.23% tax on personal income, with the base taxable amount equaling the payer's adjusted gross income (determined by their federal tax return). On top of the state rate, counties have the power to levy an additional local income tax. Currently, 92 counties in the state have a local income tax, with the rates varying from 0.5% (Porter County) to 3.38% (Pulaski County). To simplify how municipalities used the tax, the State General Assembly passed House Bill 1485 in 2015 that combined all types of local income taxes into a single tax with three rate components: Expenditure Rate, Property Tax Relief Rate and Special Purpose Rate. The local adopting body has the authority to set what the rates will be for each of these components and how the expenditure rate will be used (Morr, 2017). The City of Fort Wayne is in Allen County and is therefore subject to Allen County's local option income tax regulations.

The current local income tax rate for Allen County is 1.48%. The county's local income tax rate was 1.35% until October 1st, 2017, until the City Council of Fort Wayne decided to raise the local income tax rate for something groundbreaking: sidewalk investments. Even though it is the county that has the power to levy local income taxes, the City of Fort Wayne wields a lot of power in determining the tax rate. Under Indiana state law, the Local Income Tax Council (Council) has the power to impose, increase or decrease the county income tax in Allen County (Allen County Government, 2019). The Local Income Tax Council membership has representation from each municipality in the county, but number of votes is determined by population size. Because the City of Fort Wayne has more population than the rest of the municipalities combined (approximately 70% of the total population) the City Council of Fort Wayne essentially has unilateral power to control Allen County's local income tax rate (Leininger, 2017). Thanks to its status on the Local Income Tax Council, the City of Fort Wayne was able to secure the funds needed to improve sidewalk infrastructure citywide.

HISTORY OF THE LOCAL INCOME TAX

The need for additional funds to improve sidewalk infrastructure was not a spur of the moment decision. The City identified the need for additional sidewalks and alley connections for a more interconnected pedestrian network in its 2011 pedestrian plan, Walk Fort Wayne. As stated in the plan, the number one priority for the city was "Provide the community with an interconnected pedestrian network along all major thoroughfares that is safe, accessible and comfortable for a diverse group of users" (City of Fort Wayne, 2011). However, at the time the time of the pedestrian plan's adoption, the city had limited funding options for the installation of new sidewalks. For new sidewalks the city relied solely on combining sidewalk improvements with road improvement projects. Because simple resurfacing projects were not enough (a thoroughfare had to be undergoing a dramatic change in order to be eligible for sidewalk construction), the process was slow. The only other source of new sidewalk construction came from private developers, who were required to install sidewalks during the development process.

Of course, the city also has access to federal and state grant funding, TIF zones, property tax revenue, and local income tax revenues. However, sidewalks had to compete with other services and priorities meaning the amount of funding dedicated towards sidewalks was minimal. In 2016, the last full year before the passage of the local income tax rate increase, the City's planned annual expenditures for sidewalks projects was $630,000. Compounding the walkability issues caused by absent sidewalks was the city's sidewalk policy on maintenance. Sidewalk maintenance (including all snow removal, repair, and replacement) was and still is the responsibility of the property owner. As seen in other cities (including Austin), leaving sidewalk maintenance to the property owner usually means sidewalks stay in poor condition since property owners do not want to bear this cost. At the very least, Fort Wayne residents have access to the city-administered Barrett Law process, where 40% of sidewalk maintenance costs are borne by the city and 60% by the property owner, who can finance their share over a period of time.

The minimal funding available for city sidewalks changed in 2017, thanks to community-wide support for a local income tax rate increase where the increased tax revenue was exclusively dedicated to sidewalk infrastructure improvements and economic development on the city's riverfront. In July 2017, after two public hearings on the local ordinance, the City Council passed the 13% increase to the local income tax rate with a 6-3 vote, adjusting the local rate from 1.35% to 1.48%. Of the 41 citizens who attended the public meeting, 26 spoke in support of the increase (~63% of attendees) (Gong, 2017). When announcing his support of the ordinance, Councilmember Paddock explained that he was swayed due to the "overwhelming" support for the tax increase from his constituents, stating, "Residents in the 5th District who have contacted me are probably 5 to 1 in favor of this proposal" (Salter Rodriguez, 2017).

How did this local income tax increase pass with such broad community support? Two key issues pushed public and political support in favor of this tax increase: the recent cuts in school transportation and the city's riverfront development. Following the elimination of bus transportation for about 7,000 Fort Wayne Community Schools students in 2016 due to the high costs of a recent annexation, improving sidewalk infrastructure around schools became one of the highest priorities for the community (WANE Staff, 2017). Additionally, state implemented property tax caps was making it increasingly harder for local governments to fund transportation needs causing local officials to look towards other types of funding mechanisms (Gong, 2017). As schools cut back on bus funding, forcing more students to walk to school, parents became increasingly concerned about the safety hazards that the city's lack of sidewalks posed. One example is parent Alan Ball, who wrote to the city with his concerns about the lack of local sidewalks after his son had to start walking to middle school (Gray, 2017). As a result, school safety became a major rallying point for community support for this sidewalk initiative. In 2017, Mayor Tom Henry and the majority of the City Council began the process to increase the local income tax rate to fund needed neighborhood infrastructure improvements, with the Mayor stating, "It's critical to invest in neighborhood infrastructure projects that have a lasting impact … By working together on proactive sidewalk initiatives, we're meeting the safety and

connectivity needs of residents and neighborhoods" ("Work Begins on Sidewalk Improvements Through Local Income Tax Change," 2017). The City's proposal to increase the local income tax rate to fund sidewalk improvements received support from major stakeholders, including unanimous support from the Greater Fort Wayne Inc Board of Directors and the Superintendent of Fort Wayne Community Schools, Dr. Wendy Robinson (WANE Staff, 2017).

Another key point behind the success of this local tax initiative is the riverfront development. Three rivers converge in Fort Wayne, IN (the Maumee River, St. Joseph River, and St. Marys River), which is why Fort Wayne developed where it did. Like many U.S. cities, the historic downtown area near the meeting point of these three rivers fell to disuse during the midpoint of the twentieth century as residents flocked to the suburbs. Renewed interest in downtown living near the riverfront prompted city officials to look into restoring and redeveloping the riverfront area, leading to the Riverfront Conceptual Plan in 2015 (Riverfront Fort Wayne, 2019). While initial funding for the Riverfront development came from the Allen County-Fort Wayne Capital Improvement Board Fund (which is partially funded from the food and beverage tax), some City Council members were hesitant about solely relying on the CIB Fund, which has obligations to other municipality's projects (Salter Rodriguez, 2017). The desire to fund the Riverfront development through a pay-as-you-go mechanism like the local income tax increase ultimately led to several councilmembers support. In fact, the local tax increase is primarily focused on funding the riverfront development over funding sidewalk improvements. While the funds generated by the tax would be directed to improving sidewalk and alley infrastructure for the first two years, the funding priorities for the funds generated will shift in 2020 to primarily fund the riverfront development (Gong, 2019). However, Councilmember Barranda put forth an amendment to the local tax increase ordinance during the public hearings (supported by other councilmembers) that at least one-third of the funding be used for sidewalks and alleys each year.

IMPLEMENTATION AND IMPACT OF THE LOCAL INCOME TAX

As mentioned, the Fort Wayne's City Council voted to raise the local income tax rate for Allen County from 1.35% to 1.48%. Coupled with the tax increase, the Allen County Income Tax Council (of course, made up of mainly Fort Wayne council members) voted to increase the Economic Development distribution portion of the Local Income Tax Expenditure rate to 0.53%, with the subsequent increase of these Economic Development funds to be deposited in a Local Income Tax - Economic Development Non-Reverting Fund. This non-reverting fund is key for the success of the sidewalk portion of the tax rate increase. To ensure that the rate increase would be used for its intended purposes, the Fort Wayne City Council unanimously passed an additional ordinance stating that the funds in the non-reverting fund would be used exclusively for sidewalks, alleys, and riverfront development, disallowing their use for other government services and programs (City of Fort Wayne Common Council, 2017; Morr, 2017).

As a result of the local income tax increase, the City of Fort Wayne generated nearly $8.7 million in 2018 with almost $6 million going towards sidewalk and alley projects. In total, the Local Income Tax - Economic Development Non-Reverting Fund is expected to generate a total of $44,897,178 in revenue between 2019-2023 with an additional $60,000 in interest. Even with the shift in funding priorities in 2020, the sidewalks and alleys programs have budget allocations totaling $21.5 million between 2019 and 2023. Excluding the planned expenditures for Alley projects, the recent budget plan for the City of Fort Wayne expects to allocate an annual average of $3 million to sidewalk projects between 2019 and 2023, a 400% increase from the annual average of $600,000 in sidewalk expenditures prior to the passage of the income tax increase (See Figure 7).

City of Fort Wayne, Indiana
2019 Local Income Tax - Economic Development Non Reverting Fund Allocation Plan
Riverfront - Sidewalks - Alleys

			2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Cash Balance at January 1			$ 302,011	$ 315,645	$ 417,295	$ 387,597	$ 729,749
Receipts							
Tax Revenue			8,801,634	8,889,650	8,978,547	9,068,332	9,159,015
Estimated Interest			12,000	12,000	12,000	12,000	12,000
		Total Receipts	8,813,634	8,901,650	8,990,547	9,080,332	9,171,015
		TOTAL AVAILABLE CASH	9,115,645	9,217,295	9,407,842	9,467,929	9,900,764
Debt Service and Appropriations							
Debt Service	Maturity Date	Original Debt					
2019 Riverfront CEDIT Bond	2039	30,000,000	-	-	1,720,245	3,438,180	3,408,260
2023 Riverfront CEDIT Bond	2043	51,500,000	-	-	-	-	-
		Debt Service Total	-	-	1,720,245	3,438,180	3,408,260
Riverfront							
Property Acquisition			-	5,000,000	-	-	-
Engineering			1,000,000	500,000	1,000,000	1,000,000	500,000
Stabilization			800,000	800,000	800,000	800,000	-
Riverview Parking Garage			250,000	250,000	250,000	250,000	250,000
Annual Maintenance			250,000	250,000	250,000	250,000	250,000
		Riverfront Total	2,300,000	6,800,000	2,300,000	2,300,000	1,000,000
Sidewalks and Alleys							
		Sidewalks and Alleys Total	6,500,000	2,000,000	5,000,000	3,000,000	5,000,000
		Total Debt Service and Appropriations	8,800,000	8,800,000	9,020,245	8,738,180	9,408,260
Cash Balance at December 31			$ 315,645	$ 417,295	$ 387,597	$ 729,749	$ 492,504

Figure 7: City of Fort Wayne Local Income Tax Non-Reverting Fund Allocation Plan

The City of Fort Wayne was able to achieve these huge gains in sidewalk funding with a very small increase in the local income tax rate. When the city was originally deliberating the tax increase, it was estimated that the proposed rate increase would mean that an average household with an income of $49,000 would pay an additional $6 per month or $73 a year (WANE Staff, 2017). Indiana is already a unique case in the United States since only four states that authorize local option income taxes tie those tax revenues to transportation investments. Fort Wayne, IN is even more unique in that it specifically ties a portion of the local income tax revenue to sidewalk and pedestrian investments. This increase in dedicated spending for local sidewalks and pedestrian infrastructure is a model example for other cities in the U.S. Unfortunately, due to restrictions at the state level, most cities are unable to take advantage a system like Fort Wayne's.

"Levy to Move Seattle" Property Tax in Seattle, WA

Seattle, WA was chosen as a case study city due to its dedicated use of property taxes to fund transportation investments as well as its designation as a peer city by the 2015 City of Austin Sidewalks Peer Cities Report. Unlike the previous two case studies, Seattle is a much more comparable city to Austin in terms of population size and sidewalk need. In 2015, then Mayor Ed Murray introduced "Move Seattle" a ten-year transportation vision that integrates the city's long-range plans for improving biking, transit, walking, and freight access much like Austin's ASMP. To fund the projects outlined in "Move Seattle," the city proposed the "Levy to Move Seattle" property tax assessment. This case study evaluates the "Levy to Move Seattle" which funds $930 million of transportation investments through an additional property tax over a 9-year period. This section highlights what Seattle's sidewalk needs were prior to passage of "Levy to Move Seattle", the political challenges that the city has faced both prior to and since its passage, and what the funding effects have been since implementation.

CONTEXT

Seattle is the largest city in Washington state and the largest city in the Pacific Northwest, with the U.S. Census Bureau estimating a 2018 population of 745,000 people. Located in the isthmus between Puget Sound and Lake Washington, a large portion of the city's 142 square miles is made up of water and the city only has about 84 square miles of land area making it a very dense city. Thanks in part to this density, Seattle ranks as the 8th most walkable city in the U.S. by WalkScore.com with an overall score of 73.1/100 in 2017. Due to its size and high WalkScore®, Seattle was also chosen as a peer city in the 2015 City of Austin's Sidewalks Peer Cities Report. In the 2015 peer report, City of Seattle officials reported that the city had approximately 2,235 miles of sidewalk network and approximately 900 miles of absent sidewalk. As of 2017, the City had approximately 2,300 miles of sidewalk meaning the city is still missing just over a quarter of its sidewalk network (Lee, 2017; Seattle Department of Transportation, 2019b). While this sounds like

a lot, it is better than the City of Austin, which is missing approximately 2,200 miles of sidewalk (about 50% of the overall network).

The need for improved sidewalks has long been noted in the city's planning documents. Seattle first adopted a Pedestrian Master Plan in 2009, which was most recently updated in 2017. During the most recent plan update's development, SDOT documented that when asked "What is the single most important thing we can do to improve walking conditions in Seattle?" the top response from residents was "Improve sidewalks" (Seattle Department of Transportation, 2017). SDOT also releases a separate 6-year implementation plan for the Pedestrian Master Plan annually, which identifies the scope of the cities' sidewalk needs. The most recent Implementation Plan notes that 26% of the city's blockfaces are missing sidewalks and prioritizes segments for construction. Seattle's planning documents also note the need for increased maintenance funds. Seattle's Sidewalk Safety Repair Program oversees the maintenance of the city's sidewalks and curbs, though the city takes on a shared-responsibility model for maintenance. The city is responsible for repairing sidewalks damaged by trees or with other safety concerns, while otherwise making property owners responsible for maintaining and repairing sidewalks adjacent to their property. The City recently completed Sidewalk Condition Assessment to guide future investments, which found that 1,074 miles of sidewalk (or 46% of the existing network) rated Fair, Poor, or Very Poor (See Figure 8). While private property owners will be partially responsible for repairing these sidewalks, SDOT notes that it would need an additional annual budget of $5 million to meet the city's sidewalk maintenance needs over a 20 - 40-year period.

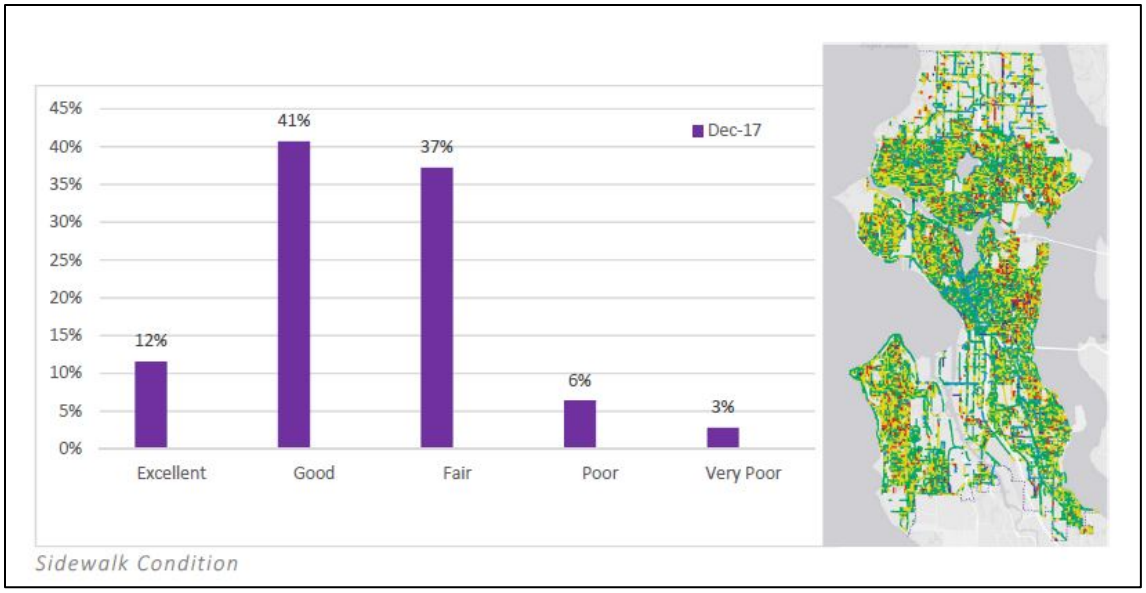

Figure 8: City of Seattle Sidewalk Condition Assessment Report

While some sidewalk responsibilities do fall within the Department of Parks and Recreation department, the Human Services Department, and the Office of Planning and Community Development, the majority falls to the Seattle Department of Transportation (SDOT). SDOT is responsible for the city's public right-of-way, and plans, oversees, and executes projects within it to improve safety conditions, economic activity, availability of open space, and overall transportation speed and reliability (Martinucci, 2016). While SDOT relies on a variety of funding sources (including federal, state and local grants; bonds; commercial parking tax; vehicle license fees; fees for service; real estate excise taxes; street vacations; gas tax; multimodal funds, property sale proceeds; school zone camera tickets; red light camera tickets; and an annual allocation from the City's General Fund), nearly 30% of the city's entire transportation budget comes from the "Levy to Move Seattle" proceeds (City of Seattle, 2019b; Martinucci, 2016). This makes the "Levy to Move Seattle" fund the largest single source of funding for sidewalk investments in Seattle, WA.

The "Levy to Move Seattle" program focuses on using funds generated to improve mobility within the city by reducing the reliance on automobile travel and shifting travel

to other modes. The program focuses on funding microprojects, rather than big-ticket projects. This reflects the larger tension between local governments and federal/state agencies when it comes to funding transportation improvements, with city leaders' rationale being that larger projects necessitate outside aid while local political pressure "favors hyperlocal improvements, such as sidewalks" (Lindblom, 2015a). Like Austin and other local governments around the country, Seattle is having to come up with their own funding solutions for local mobility needs.

HISTORY OF THE "LEVY TO MOVE SEATTLE" PROPERTY TAX

The Levy to Move Seattle is a $930 million transportation levy, meaning that it charges an additional, annual city-wide property tax assessment over a 9-year period dedicated to funding a large array of mobility projects. Unlike other funding mechanisms spotlighted in this report, the revenue generated by this levy is not solely used for sidewalk projects, though sidewalk repair and maintenance does receive a dedicated amount from the proceeds. When the levy was proposed, "Pedestrian Safety" projects were to receive an estimated $45 million, "Pedestrian Improvements" would receive $61 million, and sidewalk improvements would also come from other levy-funded initiatives, including corridor investments and Safe Routes to School.

The "Levy to Move Seattle" program replaced a similar, successful transportation levy called "Bridging the Gap". Like the Move Seattle levy, "Bridging the Gap" was an additional property tax assessment charged annually over a 9-year time frame but totaled a much smaller amount ($365 million). Despite the massive jump in funding amounts ("Levy to Move Seattle" tripled the revenue generated by "Bridging the Gap" and is the highest levy ever on record), 56.5% of voters still approved the ordinance in November of 2015 (Lindblom, 2015b). The "Levy to Move Seattle" program benefited from the successful track record of "Bridging the Gap" as well as the political support of the following organizations and companies: the Seattle Metropolitan Chamber of Commerce, Cascade Bicycle Club, Transportation Choices Coalition, Downtown Seattle Association, Seattle

Mariners, Seattle Neighborhood Greenways, Amazon, Vulcan, as well as several labor unions and local architects/developers. While the tax associated with "Levy to Move Seattle" was estimated to cost $279 a year for a mid-value $450,000 home, or about twice what landowners paid under the expiring "Bridging the Gap", many advocates took the levy's success as a sign that voters did not have "tax fatigue" (as was argued by opponents) and that urban dwellers are consistently willing to tax themselves for better transportation (Dovey, 2015; Lindblom, 2015b).

Not only did the voters demand better transportation, but the community specifically pushed for more sidewalk investment with the passage of "Levy to Move Seattle". After the initial tax was proposed by then Mayor Murray, the City launched a massive community outreach campaign to ensure that their funding priorities matched the community's. After receiving nearly 8,000 comments from approximately 5,300 people, the city released its revised proposal for voters which included $110 million - an increase of $35 million from the initial proposal - to build new sidewalks in high-demand areas and pilot alternative street designs that making walking safer and more comfortable in residential areas without sidewalks (Murray, 2015). Compared to the "Bridging the Gap" levy, annual investments in pedestrian improvements doubled.

In addition to its general sidewalk needs, Seattle was also grappling with the court-mandated requirements of a 2017 Americans with Disabilities Act (ADA) legal settlement. In *Reynoldson et al. v City of Seattle*, the Western District Court of Washington sided with the plaintiffs who sued the city under the ADA due to the lack of curb ramps. As part of the settlement, the City of Seattle must install or remediate over 28,000 curb ramps throughout Seattle over the next 18 years (ending in 2035). This will be a costly endeavor, considering a court-commissioned study from 2016 estimated that each curb ramp would cost $13,100, meaning the total cost for installing ramps city-wide will be $294 million (Gutman, 2017). The city plans to pay for curb ramp installation with Levy to Move Seattle funds and assumes a similar program will replace it once the nine-year levy period (Gutman, 2017). Additionally, the city is in the process of updating its ADA Transition

Plan, which will "evaluate all pedestrian features in the public right of way with respect to accessibility (City of Seattle, 2019).

CHALLENGES WITH "LEVY TO MOVE SEATTLE"

When writing the ordinance establishing the "Levy to Move Seattle" program, the city pointed out that the additional tax was necessary to fund critical transportation projects because of severe constraints the city faced with other funding mechanisms, including Initiative 747 capping the growth in property tax without the special approval of voters at 1%, the state's gas tax revenues inability to keep up with inflation, and the insufficiency of impact fees to cover all transportation costs (City of Seattle, 2015). In order to ensure that the tax revenue would only be used for transportation, the city mandated that all proceeds be separated into a Transportation Fund that could only be used for transportation improvements. The ordinance also established an Oversight Committee responsible for preparing an annual progress report on levy improvements. In addition to the $930 million generated over the life of the additional tax, the City of Seattle estimated these funds would be used to leverage additional federal, state, and private transportation investments and ensured that the city could bond against future levy proceeds for transportation project funding (City of Seattle, 2015; Seattle Department of Transportation, 2015).

Despite the work of the Oversight Committee, the Levy to Move Seattle faced some major criticism in its first few years due to several financial blunders made by SDOT. In 2018, Mayor Durkan ordered a review of the levy's progress which showed that SDOT underestimated construction costs and overestimated the amount of state and federal aid available to help complete levy projects, meaning several promised projects would have to be delayed or scrapped. This is not unusual for large capital projects, given that infrastructure construction costs have continued to increase over time. It's also reflective of a larger, national trend of local governments contending with diminished federal funding assistance for transportation projects. When creating its initial list of projects to be funded by the levy, the City vastly overestimated how much federal and state funding could be

leveraged using levy funds as a match. This is likely the result of decreased revenue from state and federal gas taxes (outlined in Chapter 2) as well as the differing objectives for transportation projects from local governments (who favor multimodal projects that are less eligible for grant programs) and state/federal agencies (who favor large highway and/or transit projects). Because of this mismatch, most of the city's transportation projects are funded from local sources and this is unlikely to change any time soon. In fact, two-thirds of SDOT's Capital Improvement Program funding comes from local sources (City of Seattle, 2019a).

The consequences of over-promising on transportation investment programs like "Levy to Move Seattle" include losing the trust of voters, which could jeopardize future funding initiatives. Additionally, SDOT knew about these problems for about a year but kept quiet about it until acknowledging the Move Seattle levy's setbacks. As a result, several priorities for the levy had to be recalibrated and residents became critical of what was seen as mismanagement of their tax dollars (Seattle Department of Transportation, 2019a). Fortunately, the levy's commitment to build and improve sidewalks was spared, thanks in part to higher than anticipated revenue generated by speed cameras in school zones. In addition, pedestrian infrastructure funding was forced to stay a high priority because of the court-mandated commitments of its ADA lawsuit settlement.

IMPACT OF THE "LEVY TO MOVE SEATTLE" TAX

While the first few years of the tax was stymied by construction cost problems and lack of state and federal grant funding match, it was still able to accomplish quite a lot. Expenditures from the "Levy to Move Seattle" fund totaled $82 million in 2018 and $211 million to date since the program's inception. In addition, SDOT was awarded nearly $29 million in grants for Move Seattle projects, with another $7.5 million recommended for award and awaiting final approval in early 2019. Overall, SDOT has spent $419 million on Move Seattle projects since 2016. In terms of how this have improved pedestrian infrastructure, since 2016 SDOT has spent $40.3 million broken down as follows:

- Repaired 31 blocks of sidewalk ($5.6 million)
- Built 92 blocks of sidewalk ($17.2 million)
- Upgraded 440 curb ramps ($10.3 million)
- Repainted 4,170 crosswalks ($1.3 million)
- Completed 88 Safe Routes to School projects ($200,000)
- Completed 10 Vision Zero corridors ($5.7 million)

On top of what's already been spent on pedestrian infrastructure, the City 2019 Adopted Budget and Endorsed 2020 budget anticipated spending $49 million on Vision Zero, $25.4 million on Pedestrian/Bicycle Safety, and $20.7 million on Pedestrian/Bicycle Improvements over the next two years. In addition to "Levy to Move Seattle" funds, the SDOT plans to allocate additional funds from the Real Estate Excise Tax (REET) and the School Safety Traffic and Pedestrian Improvement Fund (SSTPI) to meet the sidewalk repair, sidewalk construction, and curb ramp installation deliverables laid out in the "Levy to Move Seattle" ordinance. The 2019-2024 Pedestrian Master Plan Implementation Plan indicates that all funding sources (including potential grant funding leveraged by "Levy to Move Seattle") will provide $148.9 million specifically for pedestrian infrastructure over the next six years (See Figure 9).

Funding Source	2019	2020	2021	2022	2023	2024	6-Year Total
ADA Accessibility	8.4 M	6.8 M	5.4 M	4.4 M	4.4 M	4.4 M	**33.8 M**
Crossing Improvements	3.7 M	3.1 M	2.7 M	3.5 M	4.2 M	2.7 M	**19.9 M**
New Sidewalks	16.0 M	9.3 M	4.7 M	4.0 M	5.4 M	6.0 M	**45.4 M**
SPU Drainage Partnership – Broadview Pedestrian Improvements	1.5 M	3.1 M	3.2 M	--	--	--	**7.8 M**
Safe Routes to School	2.8 M	2.8 M	5.2 M	2.2 M	2.2 M	2.3 M	**17.5 M**
Sidewalk Repair	5.7 M	3.8 M	1.6 M	1.7 M	1.7 M	1.3 M	**15.8 M**
Stairway Rehabilitation	1.4 M	1.4 M	1.4 M	1.5 M	1.5 M	1.5 M	**8.7 M**
Total Funding	**39.5 M**	**30.3 M**	**24.2 M**	**17.3 M**	**19.4 M**	**18.2 M**	**148.9 M**

*Funding includes potential future unsecured grants to align with the 2018 Levy to Move Seattle Workplan.

Figure 9: City of Seattle 2019-2024 Pedestrian Master Plan Implementation Plan Funding Allocation

While the "Levy to Move Seattle" promised a little bit too much in the beginning, having dedicated transportation funds has allowed the city to make great strides in its transportation goals. A 2018 SDOT Traffic Report shows that the number of cars on the road decreased by nearly 2% from 2016 to 2017, despite the population increasing at the same time (Baruchman, 2018). Additionally, transit ridership went up to nearly 25% of all commuters. While the number of people who walked to work declined to 10% (according to the 2017 American Community Survey 5 year estimates) the increase in transit ridership indicates that many people are walking for that first/last mile connection, since transit ridership and walking activity are positively correlated (Freemark, 2010). Most importantly, the number of pedestrians involved in a vehicle crash declined from 2016 to 2017, meaning that the roads are slowly becoming safer thanks to improved pedestrian infrastructure (Baruchman, 2018).

Advanced Transportation District Sales Tax in San Antonio, TX

San Antonio, TX was chosen as a case study city due to its dedication of sales tax revenue for transportation investments (which include sidewalks) as well as its designation as a peer city by the 2015 City of Austin Sidewalks Peer Cities Report. Like the Seattle, WA case, San Antonio is a much more comparable city to Austin in terms of population size and sidewalk need. The San Antonio, TX case study was also included because, as a Texas city, it faces the same state-imposed legal constraints as Austin, TX. While Austin and San Antonio both levy the maximum local sales tax rate allowed by state (2%), how each city chooses to use the revenue differs. In addition to serving as a "best practice" case study, the San Antonio case offers an alternative for Austin given the existing state laws. This case study evaluates San Antonio's Advanced Transportation District (ATD) sales tax, highlighting the existing sidewalk needs in San Antonio, the trade-offs associated with having the ATD fund, and how the funds have impacted the city's sidewalk network.

CONTEXT

San Antonio, TX is the 7th largest city in the U.S., with an estimated 2018 population of 1.5 million people, and the 2nd largest city in Texas (after Houston). Geographically, it's a large, sprawling city with a land area of 461 square miles, making it nearly 55% larger than Austin, TX. While the city has an impressive 5,037 miles of sidewalk (much more than Austin's ~2,400), due to its geographic heft it still has just under 1,900 miles of absent sidewalk (compared to Austin's 2,200). Unlike Austin, the absent sidewalks are relatively evenly distributed across the city, with each of the 10 City Council districts missing between 8 – 11% of its sidewalk network (Chukwudolue, 2019). A recent survey of existing sidewalk conditions used a small sample area in each district and found that approximately 6% of existing sidewalks (amounting to 300 miles citywide) were in need of repairs, though news articles suggest that the maintenance need is much larger than the city's estimates (Chukwudolue, 2019; Marks, 2015; Selcraig, 2018). Of course, the presence of sidewalk infrastructure alone is not necessarily enough to promote walkability.

The city's sprawling nature is likely a major factor behind its low WalkScore® (38) and the low number of pedestrian commuters (1.7%). However, because this report focuses on dedicated sidewalk funding and not walkability, San Antonio is still an important case study.

HISTORY OF THE ADVANCED TRANSPORTATION DISTRICT SALES TAX

San Antonio, TX has a very similar development history to Austin's, which is unsurprising given their geographic proximity. Like Austin, for most of the city's recent history the decision to construct sidewalks was left to the property owners/developers' discretion and very few opted to do so. Also like Austin, maintenance of existing sidewalks was left to the sidewalk's abutting property owner. Leaving maintenance to individual property owners meant maintenance and repairs typically didn't happen, since many residents could not afford expensive repairs and felt that sidewalks, like roads, should be the city's responsibility (Conger, 2018; Marks, 2015). Current city leaders agree. While San Antonio's sidewalk ordinance still puts the onus of maintenance responsibility on the property owner, San Antonio's City Council has officially stated that they will not enforce it due to the historic inequity of how funds were distributed both modally and geographically. As Councilmember Ana Sandoval (District 7) pointed out, "We're taking responsibility [for construction and repairs]. If we do it for vehicles, shouldn't we do it for pedestrians?" Councilmember Robert Treviño (District 1), nicknamed "Luke Sidewalker" for his passion for sidewalks and walkability, echoed this sentiment stating "We cannot force people to pay for their sidewalks. It's just fundamentally unfair" (Selcraig, 2018). Instead, the city has focused on allocating additional revenue from its Advanced Transportation District (ATD) funding to address their sidewalk needs.

The ATD is unique to the city of San Antonio, created to help address the strains placed on the transportation network by booming population growth. Like Austin, San Antonio has experienced continuous population growth since the 1990s (Perry & Mackun, 2001). To help address growing traffic congestion, the local transit authority, VIA,

proposed a light rail system in 2000 but this was rejected by local voters who did not have confidence in the agency's ability to effectively provide public transit to the community. In response, VIA underwent a comprehensive review of the agency's operations, identifying improvements to the existing bus network. But the review revealed that VIA simply did not have enough funding to effectively serve the community, both in terms of local operating funds and funds that could be leveraged for state and federal grants. In response, VIA partnered with Bexar County and the City of San Antonio to form an "Advanced Transportation District", approved by the state legislature in 2003 and put to voters in 2004 (Mass Transit Magazine, 2005). The ATD would dedicate ¼ of 1¢ of the total local sales and use tax revenues to "advanced transportation and mobility enhancement purposes," split accordingly:

- 50% of proceeds would go to VIA for transit services
- 25% would be used to improve street and sidewalk infrastructure
- 25% would be used for local share for state and federal grants

Unlike the light rail proposal, the voters felt that the multimodal focus of the ATD was more appropriate for addressing local mobility needs. The proposal was approved by 58% of voters (Mass Transit Magazine, 2005).

IMPACT OF ATD FUNDING

Between 2004 and 2017, ATD has generated $620 million in funding for transportation investments in the San Antonio area (San Antonio Mobility Coalition Inc., 2019). Of this $620 million, the ATD has generated an average of $12 million per year for the City of San Antonio, with revenue increasing over time: the City's portion of the ATD is expected to generate $17 million in FY 2019 (City of San Antonio, 2018). Of course, the 25% of ATD revenue received by the City of San Antonio is not dedicated to sidewalks alone; some of the funds go towards street maintenance as well. However, since the implementation of the ATD, the city has allocated an average of $5 million from ATD revenues toward sidewalk needs and sidewalk funding allocation has trended upwards in

recent years. Revenue allocated towards sidewalk needs from the city's ATD fund almost doubled between FY 2018 and FY 2019, reaching $9 million allocated in FY 2019 alone (City of San Antonio, 2018).

Several political influences have increased the amount of ATD allocated towards sidewalk improvements over the last 5 years. First being the increasing awareness among city leaders in the importance of investing in pedestrian infrastructure. As mentioned, the majority of current City Councilmembers are well-aware of the historic inequity in sidewalk funding and are actively seeking to rectify this going forward. Second, is the potential threat of an expensive ADA lawsuit. The City of Los Angeles' expensive $1.3 billion sidewalk settlement in 2015 spurred many cities to become more proactive in funding their sidewalk infrastructure, San Antonio included (Selcraig, 2018). Using a combination of ATD revenue and bond funding, the city's FY 2016 budget allocated $15 million for sidewalk construction, almost double the amount of total money budgeted for sidewalks in 2014 and 2015. Finally, a growing commitment to Vision Zero principals and the need to address rising pedestrian deaths has advocates and city officials pushing for additional sidewalk funding (Marks, 2015). The increased investment in sidewalks is likely to continue with the adoption of the city's first Sidewalk Master Plan. While the city has never adopted a Sidewalk Master Plan, city staff are currently working with outside consultants to draft a conceptual plan for City Council consideration. The master plan would help the city prioritize sidewalk need going forward as well as establish a funding timeline going forward. The current draft anticipates dedicating an average of $18 million annually (through ATD revenues and bonds) to fully build out the city's network by 2042 (See Figure 10) (Chukwudolue, 2019; Dimmick, 2018).

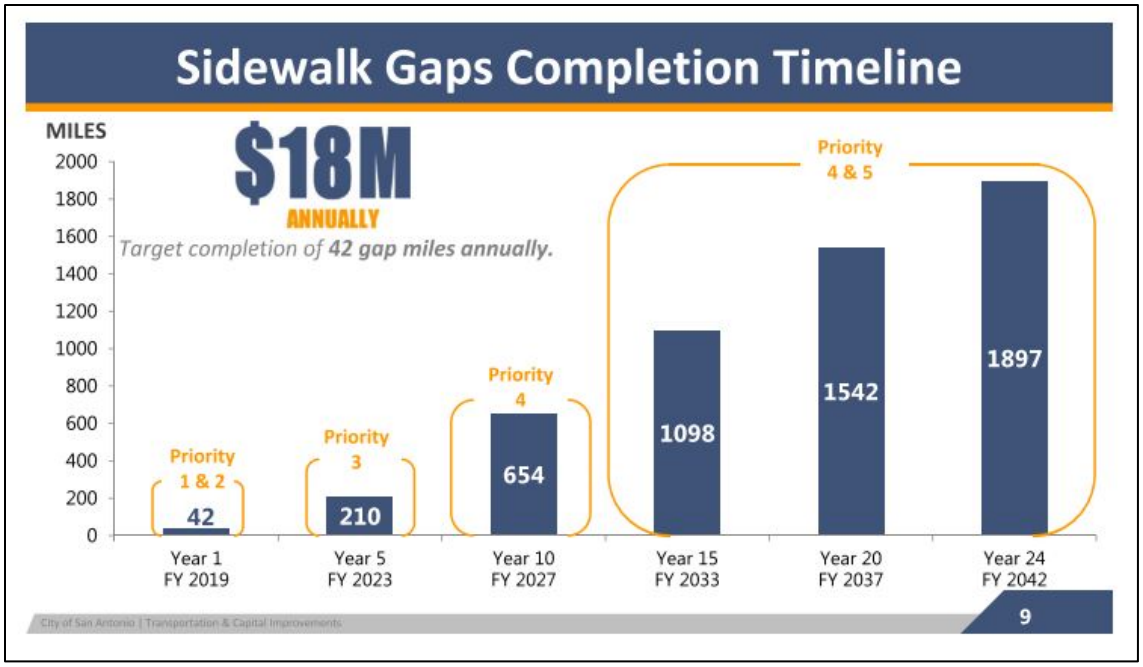

Figure 10: City of San Antonio Conceptual Sidewalk Master Plan Sidewalk Construction Timeline

CHALLENGES WITH THE ATD PROGRAM

Despite the bright outlook for the city's future sidewalk network, there are a number of challenges with the ATD that could hamper the city's funding goals. First is the competing interests vying for ATD revenue. The driving force behind the formation of the ATD was VIA Metropolitan Transit Authority's financial need. Despite the funds VIA receives from ATD revenues, it is still the least funded transit agency of the state's 4 major cities (Dallas, Houston, Austin, and San Antonio). Unlike the transit agencies in the other 3 cities, who each receive a full 1¢ of the local sales and use tax revenue, VIA only receives a ½¢ plus their 50% allocation from the ATD. In 2016, the President and CEO of VIA, Jeffrey Arndt, proposed reallocating $10 million of ATD revenue from the street/sidewalk funds to improve VIA service. The proposal sharply divided the City Council, who saw the merits of improving transit service but did not want to see cuts to their infrastructure funding (Ortiz, 2016). VIA would like to increase their current sales tax rate but is limited

by the state's 2% cap on the local sales tax rate, so their only other option is ATD fund reallocation. City staff, on the other hand, have come to rely on the ATD revenue as the most important source of funding for their sidewalk and street maintenance operations (Blunt, 2016). In the end, both transit and pedestrian infrastructure badly need additional funding but are hampered by the state's limitations on local government tax rates.

Another challenge is the nature of the ATD revenue, which comes from local sales and use tax revenues. Sales tax revenue is highly dependent on the conditions of the local economy and subject o downtowns during economic recessions. While San Antonio's local sales tax revenue has steadily increased since FY 2012, a local economic downturn or a 2008-like national recession could lead to decreased funding for sidewalk infrastructure, further delaying needed improvements. There is also the problem of the inherent regressivity of a sales tax, which disproportionately affects low-income individuals more than higher-income individuals. Of all the forms of taxation, sales taxes are generally considered to be one of the most regressive, which could negate the equity goals driving the city's sidewalk efforts.

Overall, the city's sidewalk network has benefitted from the ATD revenue. While the city has also relied on bond funding to supplement ATD revenue for needed sidewalk improvements, the ATD has provided a predictable source of funding for the last 15 years as well as provided an important source of local match needed to leverage federal and state grant money. As a result, sidewalk construction appears to be happening at a much faster rate in San Antonio than Austin. In 2015 the city had almost 2,500 miles of absent sidewalk but that number has decreased to just under 1,900 today. This means the city has acquired an average of 150 miles of sidewalk annually while Austin has acquired about 130 miles of sidewalk annual over the last 10 years.

CONCLUSION AND DISCUSSION

Lessons Learned

The four U.S. cities evaluated as part of this comparative case study offer valuable lessons for Austin, TX in that they provide alternative options and "best practice" examples of dedicated sidewalk funding at the local level. While all four cities also rely on other sources of funding for their sidewalk capital needs (including bonds and federal/state grant funding), each has made the conscious decision to implement a funding mechanism that generates revenue for their pedestrian infrastructure needs long-term. In each case, local government officials recognized that a stable source of funding would be the best way to meet the city's stated multimodal transportation goals. In all cases, annual funding allocated to sidewalk projects increased after implementation of the new mechanism.

There are several themes that are consistent across the cases that are also applicable to Austin, TX. First, each of these cities implemented their funding mechanism in response to community demand for improved local mobility. For example, local income tax increase in Fort Wayne gained community-wide support following the loss of school bus transportation and San Antonio's creation of the ATD helped support the community's demand for better transit and pedestrian infrastructure. Second, cities are increasingly concerned about potential ADA lawsuits, a sentiment strongly reflected in both the Seattle and San Antonio cases. Third, residents have made it clear to local governments that they don't see sidewalks as a private responsibility. Leaving maintenance to private property owners only exacerbates existing maintenance issues and residents agree that sidewalks should receive public dollars just as roads do. Finally, local sidewalk funding initiatives are gaining steam as a way of addressing historic inequities both geographically (such as disinvestment in pedestrian infrastructure in low-income neighborhoods and/or post-war suburbs) and modally (funding for car infrastructure but not pedestrian infrastructure). All of these are issues that have been raised in Austin, particularly as traffic congestion has worsened with the continued population growth.

Overall, local governments are seeking ways to address local mobility needs that are not being met with general funds or federal/state funding. This demand for improved local mobility is, in many ways, at odds with the way federal and state funding is allocated. Federal and state funding primarily helps fund large highway projects, and to a lesser degree, transit projects. Yet in most larger cities, increased traffic congestion has led to a disenchantment with the automobile. City officials and local advocates are seeking ways to expand transportation choice and shift residents from their cars to other modes of travel. Lack of funding support from federal and state sources for micro projects (emphasized in the Seattle case) is forcing local governments to take matters into their own hands.

The response in our case study examples has been to implement a new source of local revenue. The most important aspect of these new revenue sources is that the funds are legally bound to fund local transportation needs and cannot be diverted to other projects (for example, the non-diverting fund in Fort Wayne). By restricting these funds to identified pedestrian infrastructure needs (or in Seattle and San Antonio, to a set of local transportation infrastructure needs), community members seem more willing to show their support at the ballot box. If Austin is truly hoping to improve walkability and safety through a built out pedestrian network, it should consider implementing some type of dedicated, revenue generating mechanism.

Which Type of Revenue Generating Mechanism is Best?

The City of Austin has managed to have some success with bond funding alone, but as this report shows, relying solely on debt financing for sidewalk investments can be inherently problematic or limited. While various bond initiatives since 2006 have allocated (or will allocate) nearly $1 billion for sidewalk improvements over a twenty-year period, this hasn't provided enough funding to even meet the goals outlined in the 2016 Sidewalk Master Plan. A while $1 billion is a large investment, compared to the case study cities in this report, Austin's expenditures on sidewalk investments are the second lowest per capita at $5.06 spent per resident (See Table 4). While San Antonio's per capita sidewalk

spending is lower at $3.26, this amount only accounts for ATD revenue. San Antonio uses bond funding for sidewalk investments in addition to its ATD revenue, so the actual amount spent on sidewalks per capita is likely much higher. Bonds can be a great tool for municipalities trying to fund large capital investments, but cities seem to make the most progress with their pedestrian infrastructure goals when bonds supplement a dedicated, revenue generating mechanism rather than serve as the only source of funding. Especially when it comes to balancing ongoing maintenance and ADA compliance needs with the need for new construction, relying on bond funding alone will not be enough.

	Austin, TX	**Ithaca, NY**	**Fort Wayne, IN**	**Seattle, WA**	**San Antonio, TX**
Primary funding source	Bonds	Special Assessment Districts Community wide	Local Option Income Tax (1.48% with 0.13% going to sidewalks)	Levy to Move Seattle (9-year property tax assessment)	Advanced Transportation District Sales Tax (0.25% sales tax)
Funding type	Borrowing	Value Capture	Tax	Tax	Tax
Implementation year	2006, 2010, 2012, 2016, 2018	2014	2017	2016	2004
Annual revenue dedicated to sidewalks *(approx.)*	$ 4,880,000 *(bond funding average from 2006 – 2026)*	$ 865,000	$ 8,700,000	$ 11,500,000	$ 5,000,000
Sidewalk funding per capita	$ 5.06	$ 27.90	$ 32.51	$ 15.44	$ 3.26
Average annual sidewalk funding prior to implementation	N/A	$ 401,000	$ 3,000,000	$ 6,900,000	N/A

Table 4: Funding Impacts of Case Study City Funding Mechanisms

Based on the case study examples, local taxes seem to be the most feasible revenue generating mechanism for local transportation investments like sidewalks. The per capita investment across these case studies (See Table 4) would indicate that of the three kinds of taxes evaluated in this report (income, property, and sales taxes), local income taxes have

the potential to generate the most amount of funding for sidewalk needs and that sales taxes provide the lowest per capita investment, though San Antonio's low per capita funding amount is due to the state's cap on sales tax rates coupled with a huge population. Still, the regressivity of sales taxes are still a valid concern. Of the three types of taxes highlighted, income and property taxes would seem the most ideal for generating large amounts of revenue without disproportionately affecting low-income individuals who are more likely to depend on the sidewalk network for their transportation needs.

Of course, taxes are also not the only mechanism available to local governments. Value capture mechanisms yield a lot of potential, though most value capture mechanisms are restricted to specific areas or districts. Ithaca's model is an excellent example of implementing a city-wide value capture mechanism. While residents have voiced some concerns about inequities between sidewalk improvement districts, overall the city is able to ensure that each district is benefiting from the system while not having any one district over/under pay in terms of local investment received. Of the value capture mechanisms available to local governments, the SID example is one of the most promising for sidewalk investments, especially for funding ongoing maintenance and repair. Other value capture mechanisms, such as TIFs and development impact fees are less promising since they either cannot be applied city-wide or go not yield continuous funding in the long-term. Congestion pricing could be a promising form of value capture but right now there hasn't been a strong enough example in the U.S. to support a case study. Transportation Utility Fees (TUFs) are another potential value capture mechanism that could be applied citywide. TUFs are already in use in Austin (under the name Transportation User Fees), though their revenue has not specifically been dedicated to sidewalk needs. Dedicating a portion of TUF revenue to pedestrian infrastructure was one of the Pedestrian Advisory Council's (PAC) to City Council in 2018, though there haven't been any further developments with this initiative (City of Austin Pedestrian Advisory Council, 2018).

One type of revenue generating mechanism not explored in this report is the use of User Fees. Like congestion pricing, VMT fees could be promising for dedicated sidewalk

funding in the future, but currently there are no case study candidates. Also, some policymakers and payers are critical of dedicating revenue to sidewalks from vehicle-based user fees like VMT fees, since the users paying the fee do not receive direct benefits from the revenue. Other types of user fees like vehicle registration fees and tolls raise the same concern. Some cities have used traffic fines to help fund their sidewalk infrastructure. Until HB 1631 passed during the last legislative session banning the use of red-light traffic cameras in the state of Texas, Fort Worth, TX had used some of their red-light traffic camera fine revenue to fund sidewalk maintenance. A preliminary review of the revenue generated by this mechanism indicated that the resulting funds were minimal at best. Additionally, there are several equity concerns with relying on traffic fine revenue to fund transportation investments, which are outlined in Chapter 4.

Curb Access Pricing and Management, however, does seem like it could be a promising revenue generating mechanism in the future. This mechanism is, in many ways, still very new which made building an entire case study around it difficult. While the use of parking benefit districts have become popular in many cities (including Austin), revenue available for sidewalk improvements is typically restricted to the district and not available for use city-wide. Some cities are implementing pilot programs for larger, more comprehensive forms of curb access pricing and management (which would go beyond parking to include freight, ridesharing companies, dockless mobility vehicles, etc.), though these systems are very new. One such example is Austin's management of e-scooters, which generated $750,000 in 2018 through permit fees and fines. Funds were deposited into the city's Parking Enterprise Fund, which helps fund sidewalk improvements (among parking enforcement and other infrastructure needs). However, the revenue generated must also cover the cost of enforcing and operating the permitting program and so far there has been littler revenue leftover for actual sidewalk improvements (Bradshaw, 2019b). Still, the potential of curb access pricing and management shouldn't be ignored, especially in cities where state authorization laws prevent the use of other local government revenue generating mechanisms.

Legal Challenges for Austin, TX

While the case study examples evaluated in this report offer valuable lessons for Austin, implementing the funding mechanisms highlighted here may prove difficult or impossible due to state authorization laws. Specifically, two of the mechanisms are not viable at this time: San Antonio's sales tax and Fort Wayne's local income tax. While Austin could follow San Antonio's ATD example since they operate under the same statutory restrictions, the state's cap on local sales tax rates would mean cutting services elsewhere. It is unlikely that CapMetro would be willing to decrease the amount of funding they currently receive from the local sales tax either. According to Cap Metro's 2019 budget, sales tax revenue is their primary source of revenue (accounting for nearly ¾ of their total revenue) and operations are highly dependent on this funding source (Capital Metropolitan Transportation Authority, 2018). While the 1-cent sales tax revenue is not restricted to transit operations and can be used for various types of capital projects, these projects are typically focused on rail and bus capital needs. The transit authority does have an interlocal agreement with the City of Austin to pay for sidewalk improvements around bus stops, which was scheduled to run from 2012 to 2019. While Cap Metro and the City of Austin have extended this agreement for another 4 years (through 2023), it is unlikely that Cap Metro's sales tax revenue will provide a significant source of sidewalk funding beyond minor projects around their transit stops. Additionally, given Cap Metro's history of unpaid commitments for Austin's infrastructure needs from the "Quarter Cent Program" from 2001-2004[2], which left the city with $51 million in unfunded transportation projects, relying on Cap Metro's 1-cent sales tax revenue to fund local sidewalk needs seems inadvisable.

[2] The "Quarter Cent Program" was a program between Capital Metro and the municipalities in its jurisdiction where the transit authority agreed to pay a quarter-cent of all sales tax revenue from 2001-2004 for "regional mobility" projects. 15% of the "Quarter Cent Program" funds were for active transportation projects, such as sidewalk improvements. Cap Metro agreed to this program to ease political pressure calling for a permanent reduction in Cap Metro's 1-cent sales tax revenue following a failed light rail proposal. However, after the Great Recession in 2008 Cap Metro was unable to pay all of its original obligations, leaving the City of Austin short about $51 million (Gregor, 2010).

Cutting CapMetro's sales tax rate to a rate comparable to VIA's wouldn't be advisable either, since transit investments are just as important as sidewalk investments. While all people are pedestrians at some point in their day, transit users in particular are more likely to need sidewalk infrastructure for their first and last mile connections. Instead, Austin should focus on lobbying the state government to lift their restrictions on the local tax rate, rather than looking to reallocate the current recipients of sales tax revenue. Of the other case study examples, Fort Wayne's is the least likely to be a viable solution for Austin. While Fort Wayne's local income tax generated the most revenue per capita, income taxes aren't even levied at the state level in Texas, let alone legally allowed at the local level. While this could change in the future, Austin would probably have a better chance of success in lifting the sales tax rate than lobbying for local option income taxes. Still, being aware of the potential of local income taxes for sidewalk funding is important for local level policymakers across the U.S.

However, two of the case study examples have a higher potential of successful adoption in Austin: Seattle's property tax assessment and Ithaca's special assessment district model. Seattle's "Levy to Move Seattle" authorized the city to collect additional property tax revenue for the express purpose of investing in transportation infrastructure. To achieve the $930 million funding goal over 9 years, the city had to raise the local property tax rate by an estimated $62 per $100,000 of assessed property value, which still kept the city's total property tax rate under the state-set maximum of $360 per $100,000 (Ballotpedia, 2015). The City of Austin's FY 2018-2019 property tax rate is 0.4403 per $100 of taxable value (or $440 per $100,000). The city is well below the state limit on property tax rates in home rule cities ($2.50 per $100 of taxable value), though Texas does restrict how much property tax revenue can increase from year to year (Texas Municipal League, 2017). Until this year, if local taxing authorities wanted to raise more than 8% property tax revenue than the previous year (note that this restriction refers to an increase in revenue, not a rate increase) an election was required to approve the increase. With the passage of SB2 this past legislative session, this limitation has been reduced to 3.5%, which puts quite a damper on local budgets. Still, Austin does have the potential to increase the

property tax rate and transfer additional revenue into a dedicate fund for sidewalk infrastructure.

Ithaca's special assessment district model also has the potential for application in Austin. The use of special assessment district to fund district improvements such as sidewalks is legally allowed in Texas cities. However, there are some legal hurdles. Assessment districts in Texas cities must be initiated by property owners in the proposed district, not by the city. Formation of an assessment district cannot be considered until the city receives a petition from both property owners that hold at least 50% of the appraised value in the district and 50% of all property owners within the proposed district. These restrictions would make the application of a community-wide improvement district program like the SID program in Ithaca unlikely. However, changes to the state code governing how assessment districts are formed could make such a program viable.

In the end, Austin faces an uphill battle no matter which revenue generating mechanism it may try to implement. The city's historic disinvestment in sidewalk infrastructure and rapid expansion have resulted in a formidable gap that will take a long time to address. Given that Austin's need is more on the level of Seattle's scale of investment, a property tax assessment like the "Levy to Move Seattle" program would likely be the most successful in addressing Austin's sidewalk gap. Unfortunately, the restrictions placed on local governments by the Texas state legislature make this unlikely. Texas cities are extremely limited in their ability to generate revenue at the local level for transportation investments. Across the state, development has largely favored the automobile and largely disinvested in other modes. Cities are now playing catch-up to relieve the strains placed on existing transportation infrastructure due to rapid population growth. However, federal transportation funding priorities and state-imposed limitations on local government revenue mechanisms are making it difficult for local governments to respond to local transportation needs. While this is true in all states, the situation is particularly bad in Texas where recent legislation has tightened, rather than loosened, restrictions on local government autonomy.

This case study report evaluates different approaches used by local governments across the U.S. to fund their sidewalk needs. Of course, the success of any such revenue generating mechanism is highly dependent on the local context. Some of these mechanisms may not be appropriate for implementation in Austin given the city's physical and legislative context. However, the examples highlighted in this report can and should be used by local officials to lobby for more autonomy when it comes to funding local transportation needs. Nationally, there is an ongoing trend of devolution of transportation funding from the federal to the local level. This is likely to continue for the foreseeable future as federal gas tax revenue declines. Without states like Texas removing many of their state preemption laws, cities will be unable to invest in transportation modes that better serve the needs of their constituents. This is especially true in Austin, which has again and again recognized the importance of building out its sidewalk network but has continued to struggle to meet its sidewalk funding goals.

WORKS CITED

Adams, M., Hiatt, R., Hill, M. C., Russo, R., Wachs, M., & Weinstein, A. (2001). *Financing Transportation in California: Strategies for Change (Final Draft)*. *Institute of Transportation Studies*. Retrieved from http://escholarship.org/uc/item/7fh2v7zd#page-8

Allen County Government. (2019). *https://www.allencounty.us/local-income-taxes*. Retrieved from Allen County, Indiana: https://www.allencounty.us/local-income-taxes

Anzilotti, E. (2016, July 14). *A New Life for Urban Alleys*. Retrieved from CityLab: https://www.citylab.com/solutions/2016/07/a-new-life-for-urban-alleys/491207/

Ardila-Gomez, A., & Ortegon-Sanchez, A. (2016). *Sustainable Urban Transport Financing from the Sidewalk to the Subway: Capital, Operations, and Maintenance Financing*. https://doi.org/http://dx.doi.org/10.1596/978-1-4648-0756-5

Barnett, J., & Vidal, P. (2011). *State and Local Government Finances, Summary 2011.* . Washington, D.C. : U.S. Census Bureau.

Baruchman, M. (2018, December 11). Traffic in Seattle, 2017: Fewer cars, bicyclists and walkers; more transit riders and carpoolers. *Seattle Times*. Retrieved from https://www.seattletimes.com/seattle-news/transportation/traffic-in-seattle-2018-fewer-cars-bicyclists-and-walkers-more-transit-riders-and-carpoolers/

Batheja, A. (2015, March 22). *In Legislature, Toll Roads Facing Strong Opposition*. Retrieved from The Texas Tribune: https://www.texastribune.org/2015/03/22/legislature-tolls-facing-strong-opposition/

Blunt, K. (2016, June 1). Committee waffles on whether San Antonio should give VIA more tax dollars. *Express News*. Retrieved from https://www.expressnews.com/news/local/article/Committee-waffles-on-whether-San-Antonio-should-7958127.php

Bradshaw, K. (2019a, February 26). *Pedestrian deaths reached record levels in 2018, police data show*. Retrieved from Austin American-Statesman: https://www.statesman.com/news/20190215/pedestrian-deaths-reached-record-levels-in-2018-police-data-show

Bradshaw, K. (2019b, April 22). Scooter fees added more than $750,000 to Austin coffers in past year, documents show. *Austin American-Statesman*. Retrieved from https://www.statesman.com/news/20190422/scooter-fees-added-more-than-750000-to-austin-coffers-in-past-year-documents-show

Capital Metropolitan Transportation Authority. (2018). Approved FY2019 Operating & Capital Budget. Retrieved from Capital Metropolitan Transportation Authority: https://www.capmetro.org/uploadedFiles/New2016/About_Capital_Metro/Financi

al_Transparency/Annual_Budgets/Fiscal-Year-2019-Approved-Budget.pdf

Chukwudolue, A. (2019). City of San Antonio Conceptual Sidewalk Master Plan. San Antonio, TX: ACEC/PEPP Annual Seminar.

City of Austin. (2009). *City of Austin Sidewalk Master Plan (2009)* (Vol. 2).

City of Austin. (2015). *City of Austin Sidewalks Peer Cities Report*.

City of Austin. (2016a). *City of Austin Sidewalk Master Plan / ADA Transition Plan Update*.

City of Austin. (2016b). Connecting Our Community. Austin: City of Austin.

City of Austin. (2018a). *City of Austin 2017 - 2018 Approved Budget*. Austin.

City of Austin. (2018b). *City of Austin 2018 - 2019 Approved Budget*. Austin.

City of Austin Pedestrian Advisory Council. (2018). *Recommendation Number 20180604-07B: The Sidewalk Funding Gap*.

City of Fort Wayne. (2011). *Walk Fort Wayne: A Plan to Enhance Pedestrian Accessibility*. Fort Wayne, IN. Retrieved from http://www.fwcommunitydevelopment.org/walk-fort-wayne

City of Fort Wayne Common Council. (2017). Regular Session Minutes July 11, 2017. City of Fort Wayne.

City of Ithaca. (2013). City of Ithaca Sidewalk Local Law Sidewalk.

City of Ithaca. (2018). *City of Ithaca 2019 Final Budget*. Ithaca.

City of Ithaca Office of the City Attorney. (2013). Sidewalk Task Force Fact Sheet.

City of Ithaca Planning Division. (2015). *Plan Ithaca: A Vision for Our Future (City of Ithaca Comprehensive Plan)*. Ithaca.

City of San Antonio. (2018). *City of San Antonio FY2019 Adopted Operating and Capital Budget*. San Antonio, TX.

City of Seattle. SDOT Transportation Levy Ordinance (2015).

City of Seattle. (2019a). *2019-2024 Adopted Capital Improvement Program*. Seattle, WA.

City of Seattle. (2019b). *2019 Adopted and 2020 Endorsed Budget*. Seattle, WA.

Conger, J. (2018, February 20). A gap in San Antonio's sidewalks. *News 4 San Antonio*. Retrieved from https://news4sanantonio.com/news/local/a-gap-in-san-antonios-sidewalks

Congressional Budget Office. (2018). *Public Spending on Transportation and Water Infrastructure, 1956 to 2017*. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cat00572a&AN=alice.b4662467&site=eds-

live&scope=site%5Cnhttp://www.cbo.gov/ftpdocs/119xx/doc11940/11-17-Infrastructure.pdf%5Cnhttp://purl.fdlp.gov/GPO/gpo1248

Corazza, M. V., Di Mascio, P., & Moretti, L. (2016). Managing sidewalk pavement maintenance: A case study to increase pedestrian safety. *Journal of Traffic and Transportation Engineering (English Edition)*. https://doi.org/10.1016/j.jtte.2016.04.001

Davis, C., Davis, K., Gardner, M., Heimovitz, H., Johnson, S., McIntyre, R., . . . Wiehe, M. (2015). *Who Pays? A Distributional Analysis of the Tax Systems in all 50 States, 5th Edition.* Washington, D.C.: The Institute on Taxation & Economic Policy.

Dimmick, I. (2018, April 16). Council Committee Considers Sidewalk Master Plan for San Antonio. *The Rivard Report*. Retrieved from https://therivardreport.com/council-committee-considers-sidewalk-master-plan-for-san-antonio/#

DuPuis, N., & McFarland, C. K. (2016). *Paying for local infrastructure in a new era of federalism: a state-by-state analysis*. Washington, D.C. Retrieved from http://www.nlc.org/sites/default/files/2016-12/NLC_2016_Infrastructure_Report.pdf

Druga, M. (2019, 05 29). *Transportation organization urge Congress to repeal rescission of contract*. Retrieved from Transportation Today: https://transportationtodaynews.com/news/14008-transportation-organization-urge-congress-to-repeal-rescission-of-contract/

Elmer, V., & Leigland, A. (2014). *Infrastructure Planning and Finance: A Smart and Sustainable Guide.* New York: Routledge.

Eno Center for Transportation. (2014). *How we Pay for Transportation: The Life and Death of the Highway Trust Fund*. Washington, D.C. Retrieved from https://www.enotrans.org/etl-material/the-life-and-death-of-the-highway-trust-fund/

Federal Highway Administration. (2019). *Guide for Maintaining Pedestrian Facilities for Enhanced Safety Research Report*. Washington, D.C. https://doi.org/https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa13037/research_report/chap2f.cfm

Ford, M. (2015, April 2). *The Problem With Funding Government Through Fines.* Retrieved from The Atlantic: https://www.theatlantic.com/politics/archive/2015/04/the-problem-with-funding-government-through-fines/389387/

Foster, L., & Weiss, J. (2018, 6 8). *American courts should not be turned into revenue machines.* Retrieved from The Hill: https://thehill.com/opinion/judiciary/391449-american-courts-should-not-be-turned-into-revenue-machines

Gelinne, D. (2019, February 11). *Steps to Prioritize and Implement Sidewalks*. Retrieved from Georgia Municipal Association: https://www.gacities.com/News/Viewpoints/Steps-to-Prioritize-and-Implement-Sidewalks.aspx

Goffman, E. (2018, June 8). How to Manage the Chaotic 21st Century Curb. *Mobility Lab*.

Goldman, T., & Wachs, M. (2003). A Quiet Revolution in Transportation Finance : The Rise of Local Option Transportation Taxes. *Transportation Quarterly*, *57*(1), 19–32. Retrieved from https://escholarship.org/uc/item/2gp4m4xq

Goldsmith, S. (2018). Cashing In on the Curb. Retrieved from www.governing.com/blogs/bfc/col-smart-cities-data-curb-sidealk-mobility-value.html

Gong, D. (2019, January 23). Tax pays off in sidewalks, alleys, council told. *The Journal Gazette*. Retrieved from http://www.journalgazette.net/news/local/20190123/tax-pays-off-in-sidewalks-alleys-council-told

Gong, D. (2017, June 28). *Packed meeting hears tax debate*. Retrieved from The Journal Gazette: http://www.journalgazette.net/news/local/20170628/packed-meeting-hears-tax-debate

Graves, J. (2014, July 2). *Guest Viewpoint: City should reconsider funding for sidewalk project*. Retrieved from The Ithaca Journal: https://www.ithacajournal.com/story/opinion/contributors/2014/07/02/guest-viewpoint-city-should-reconsider-funding-for-sidewalk-project/12018877/

Gray, F. (2017, August 06). *Dangerous walk to school attracts city's attention*. Retrieved from The Journal Gazette: http://www.journalgazette.net/news/local/frank-gray/20170806/dangerous-walk-to-school-attracts-citys-attention

Gregor, K. (2010, April 16). Gone and Quartered: Stiffed on Capital Metro money, the city scrambles to fund another $51 million for transportation projects. Retrieved from The Austin Chronicle: https://www.austinchronicle.com/news/2010-04-16/1016842/

Gutman, D. (2017, July 31). Can Seattle increase sidewalk curb-ramp construction without any new money? It says yes. *Seattle Times*. Retrieved from https://www.seattletimes.com/seattle-news/transportation/can-seattle-quadruple-sidewalk-curb-ramp-construction-without-any-new-money-it-says-yes/

Heleman, J., & Wright, B. (2016). Texas' Motor Fuels Taxes: Essential Levies Support Roads, Education. *Fiscal Notes*. Retrieved from https://comptroller.texas.gov/economy/fiscal-notes/2016/february/fuels.php

Henry, T. (2015, July 9). *Austin Has a Sidewalk Problem. What Can the City Do To Fix It?* Retrieved from KUT 90.5 Austin's NPR Station: https://www.kut.org/post/austin-has-sidewalk-problem-what-can-city-do-fix-it

Jankowski, P. (2019). As Austin's debt expands, credit analysts see little risk. Retrieved from https://www.statesman.com/news/20190525/as-austins-debt-expands-credit-analysts-see-little-risk

Kerth, R., & Baxandall, P. (2011). *Tax-Increment FinancingThe Need for Increased Transparency and Accountability in Local Economic Development Subsidies.* Policy Report, U.S. PIRG Education Fund.

Kim, A. (2018, 9). *When Cities Rely on Fines and Fees, Everybody Loses.* Retrieved from Governing: https://www.governing.com/columns/public-money/gov-court-fees-fines-debt.html

Lee, J. (2017, September 11). Cracks, gaps and uplifts: When and how do Seattle's dangerous sidewalks get fixed? *Seattle Times*. Retrieved from https://www.seattletimes.com/seattle-news/transportation/cracks-gaps-and-uplifts-when-and-how-do-seattles-dangerous-sidewalks-get-fixed/

Leininger, K. (2017, January 24). Kevin Leininger column. *The News-Sentinel*.

Lindblom, M. (2015a, June 6). Walking advocates push for a bigger piece of Seattle transportation levy. *Seattle Times*. Retrieved from https://www.seattletimes.com/seattle-news/transportation/walking-advocates-push-for-a-bigger-piece-of-move-seattle-levy/

Lindblom, M. (2015b, November 3). Voters saying yes to Seattle's big ask for transportation. *Seattle Times*. Retrieved from https://www.seattletimes.com/seattle-news/transportation/move-seattle/

Loukaitou-Sideris, A., & Ehrenfeucht, R. (2009). *Sidewalks: Conflict and Negotiation over Public Space.* Cambridge: The MIT Press.

Marks, M. (2015, September 22). Why Are San Antonio's Sidewalks Such a Mess? *San Antonio Current*. Retrieved from https://www.sacurrent.com/sanantonio/why-are-san-antonios-sidewalks-such-a-mess/Content?oid=2472439

Martinucci, D. A. (2016). *Multimodal Transportation in Northeast Seattle: An Integrated Design*. *University of Washington*. Retrieved from http://search.proquest.com.ezaccess.library.uitm.edu.my/docview/1821890076?accountid=42518

Mass Transit Magazine. (2005). What were the most successful strategies your system used to gain support for its 2004 referendum?; San Antonio, Texas. *Mass Transit Magazine*, *February/M*.

Mayor's Committee for People with Disabilities, City of Austin (2014, September 22). "Sidewalk Master Plan Update. Retrieved from: http://www.austintexas.gov/edims/document.cfm?id=228418

Miller, S., & Coutts, C. (2018). A multiple case study of local & creative financing of bicycle and pedestrian infrastructure. *Case Studies on Transport Policy*, *6*, 257–

264. https://doi.org/https://doi.org/10.1016/j.cstp.2018.03.008

Morr, G. E. (2017). *2017 Comprehensive Annual Financial Report*. Fort Wayne, IN.

Murray, E. (2015, May 6). Mayor presents revised Transportation Levy to Move Seattle. *State News Service*. Retrieved from http://murray.seattle.gov/mayor-presents-revised-transportation-levy-to-move-seattle/

National Association of City Transport Officials. (2017). NACTO Curb Appeal: Curbside Management Strategies, (November), 1–12.

National League of Cities. (2016, December 13). *Cities 101 - Delegation of Power*. Retrieved from NLC National League of Cities: https://www.nlc.org/resource/cities-101-delegation-of-power

Nocella, M. (2014, May 7). More Ithaca Sidewalks May Be Repaired Under New Program. *Ithaca.Com*. Retrieved from https://www.ithaca.com/news/more-ithaca-sidewalks-may-be-repaired-under-new-program/article_5ebaaa1e-d5fe-11e3-9eaa-0019bb2963f4.html

Office of Policy and Governmental Affairs. (2016, July). *Fixing America's Surface Transportation Act or "FAST Act"*. Retrieved from USDOT Federal Highway Administration (FHWA): https://www.fhwa.dot.gov/fastact/summary.cfm

Ortiz, E. (2016, June 6). San Antonio's Mass Transit Funding Lags Far Behind Other Texas Cities. *The Rivard Report*. Retrieved from https://therivardreport.com/san-antonios-mass-transit-funding-lags-behind-other-cities/#

Perry, M. J., & Mackun, P. J. (2001). Census 2000 Brief: Population Change and Distribution, 1990 to 2000. U.S. Census Bureau. Retrieved from https://www.census.gov/prod/2001pubs/c2kbr01-2.pdf

Purcell, A. (2019, June 27). *City tackles sidewalk improvements and short-rental regulations*. Retrieved from Hudson Valley 360: https://www.hudsonvalley360.com/article/city-tackles-sidewalk-improvements-and-short-rental-regulations

Reyes, E. A. (2015, April 1). *L.A. agrees to spend $1.3 billion to fix sidewalks in ADA case*. Retrieved from Los Angeles Times: https://www.latimes.com/local/lanow/la-me-ln-lawsuit-broken-sidewalks-20150331-story.html

Riggs, W., & McDade, E. (2016). Moving from planning to action: Exploring best practice policy in the finance of local bicycling and pedestrian improvements. *Case Studies on Transport Policy*, *4*, 248–257. https://doi.org/http://dx.doi.org/10.1016/j.cstp.2016.06.004

Riverfront Fort Wayne. (2019). *A long, winding history*. Retrieved from Riverfront Fort Wayne: http://riverfrontfw.org/about/#history

Rodriguez, P., & Rowangould, G. (2017). The Current State of Sidewalk ADA Compliance

and Alternative Funding Methods for Albuquerque, NM. In *TRB 96th Annual Meeting Compendium of Papers*. Retrieved from https://trid.trb.org/view/1439735

Salter Rodriguez, R. (2017, July 11). *Paddock says he'd support tax increase*. Retrieved from The Journal Gazette: http://www.journalgazette.net/news/local/20170711/paddock-says-hed-support-tax-increase

San Antonio Mobility Coalition Inc. (2019). San Antonio Mobility Coalition, Inc. 2019 Legislative Agenda. San Antonio, TX. Retrieved from http://www.samcoinc.org/wp-content/uploads/2019/04/SAMCo_One_Sheets_2019_ALL-LR-2.pdf

Seattle Department of Transportation. (2015). Transportation Levy to Move Seattle June 2015 Fact Sheet. Seattle, WA: City of Seattle, WA. Retrieved from http://www.seattle.gov/Documents/Departments/SDOT/About/Funding/2018_0423_MSLevy_Eval_Council_report_FINAL_Printable.pdf

Seattle Department of Transportation. (2017). *City of Seattle Pedestrian Master Plan*. Seattle, WA.

Seattle Department of Transportation. (2019a). Levy to Move Seattle 2018 Annual Report. Seattle, WA: City of Seattle, WA.

Seattle Department of Transportation. (2019b). Seattle Pedestrian Master Plan: 2019-2024 Implementation Plan and Progress Report. Seattle, WA: City of Seattle, WA.

Selcraig, B. (2018, January 13). S.A. ignores its rule that homeowners pay for sidewalks. *Express News*. Retrieved from https://www.expressnews.com/news/local/article/S-A-ignores-its-rule-that-homeowners-pay-for-12496289.php

Shoup, D. (2010). Putting Cities Back on Their Feet. *Journal of Urban Planning and Development*, *136*(3), 225–233. https://doi.org/10.1061/(asce)up.1943-5444.0000024

Springer, C. D., & Ghilarducci, J. (2004). Transportation Utility Fee. *Transportation Research Record: Journal of the Transportation Research Board*, *No. 1895*, 15–24.

Texas Comptroller of Public Accounts Office. (2019, June). *Jurisdictions that impose local sales tax on telecommunications services*. Retrieved from Texas Comptroller of Public Accounts Office: https://comptroller.texas.gov/taxes/publications/96-339.php

Texas Constitution, Article XI, Section 5.

Texas Municipal League. (2017). Revenue Manual for Texas Cities. Texas Municipal League. Retrieved from https://www.tml.org/DocumentCenter/View/68/Texas-Municipal-League-Revenue-Manual-for-Texas-Cities-PDF

Tomer, A., & Kane, J. W. (2018, January). *Localities will deliver the next wave of transportation investment*. Retrieved from The Brookings Institution: https://www.brookings.edu/research/localities-will-deliver-the-next-wave-of-transportation-investment/

USDOT Federal Highway Administration. (2018). *Grant Anticipation Revenue Vehicles (GARVEEs) Archived Highlights*. Retrieved from FHWA Center for Innovative Finance Support: https://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/garvees/archived_highlights.aspx

USDOT Federal Highway Administration. (n.d.). *FHWA Center for Innovative Finance Support*. Retrieved from Special Assessments: https://www.fhwa.dot.gov/ipd/value_capture/defined/special_assessments.aspx

USDOT Federal Highway Administration. (n.d.). *FHWA Center for Innovative Finance Support*. Retrieved from Negotiated Exactions.

Voulgaris, C. T. (2016). A TUF Sell: Transportation Utility Fees as User Fees for Local Roads and Streets. *Public Works Management & Policy*, *21*(4), 305–323. https://doi.org/10.1177/1087724x16629961

Wachs, M. (2006). *A Quiet Crisis in Transportation Finance: Options for Texas [Testimony]*. RAND Corporation.

WANE Staff. (2017, June 16). Greater Fort Wayne board supports tax hike to fund riverfront, sidewalks. *Wane.Com*. Retrieved from https://www.wane.com/news/local-news/greater-fort-wayne-board-supports-tax-hike-to-fund-riverfront-sidewalks/

Weber, R., & Goddeeris, L. (2006). *Tax Increment Financing : Process and Planning Issues*. Chicago.

Whittaker, R. (2014, July 11). Where the Sidewalks End. *The Austin Chronicle*. Retrieved from https://www.texasmonthly.com/article/where-the-sidewalks-end/

Wilkie, C. (2019, 05 22). *Trump says he won't do an infrastructure bill while Democrats continue to investigate him*. Retrieved from CNBC: https://www.cnbc.com/2019/05/22/trump-hosts-democratic-leaders-at-white-house-infrastructure-talks.html

Work Begins on Sidewalk Improvements Through Local Income Tax Change. (2017, November 28). *Fort Wayne & NE Indiana News*. Retrieved from https://fort-wayne-news.com/2017/11/28/work-begins-on-sidewalk-improvements-through-local-income-tax-change/

Zhao, Z., Iacono, M., Lari, A., & Levinson, D. (2012). Value Capture for Transportation Finance. *Procedia - Social and Behavioral Sciences*, *48*, 435–448. https://doi.org/10.2139/ssrn.1737786

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